Hands-On Labs
Join us for full-day, pre-conference hands-on labs Sunday, November 17.
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**Register Now!**

**LIVE! 360 OFFERS SIX IN-DEPTH CO-LOCATED TECHNICAL CONFERENCES IN ONE.**

When you purchase any Live! 360 6-Day, 5-Day or 3-Day package, you can customize your conference experience by attending sessions at any of the six co-located events (Visual Studio Live!, SQL Server Live!, TechMentor, Artificial Intelligence Live!, Office & SharePoint Live!, and Cloud & Containers Live!) – all for one low price (just choose a "primary" conference when registering).
WHAT IS LIVE! 360?

**The Ultimate Education Destination**

**6 Great Events, 1 Low Price!**

Live! 360™ brings the IT and Developer community together for real-world, practical information and training on a wide range of Microsoft products, technologies, and solutions. Plus, Live! 360 brings 6 co-located conferences together, featuring expert education, training, knowledge transfer, and networking, enabling you to create your own custom conference choosing from hundreds of sessions, 8 hands-on labs, and 21 in-depth workshops to best suit your needs.

Whether you are a developer, IT Pro, DBA, or a Data Scientist, on a large team or a team of 2, Live! 360 is crafted for (almost) every IT title, experience level, and team size!

Choose the ultimate education destination: Live! 360.

**Attendees of any of the Live! events will have unlimited access to all six co-located conferences – mix and match sessions to create a custom conference!**

---

**Visual Studio Live!**

Visual Studio Live! features unbiased and practical development training on the Microsoft Platform. Come join us and code in paradise!

**SQL Server Live!**

SQL Server Live! will leave you with the skills needed to drive your data to succeed, whether you are a DBA, developer, IT Pro, or Analyst.

**TechMentor**

TechMentor is where IT training meets sunshine, with zero marketing speak on topics you need training on now, and solid coverage on what’s around the corner.

**Artificial Intelligence Live!**

Artificial Intelligence Live! is an innovative conference for current and aspiring developers, data scientists, and data engineers covering artificial intelligence (AI), machine learning, data science, Big Data analytics, IoT & streaming analytics, bots, and more.

**Office & SharePoint Live!**

Office & SharePoint Live! provides leading-edge knowledge and training to work through your most pressing projects and enable people to work from anywhere at any time.

**Cloud & Containers Live!**

Cloud & Containers Live! has the content you need to understand and leverage Kubernetes, Docker, Azure, AWS, and other cloud-native technologies. Whether you are looking for IT infrastructure, software development, or DevOps information, this conference is for you.
Top Reasons

TO ATTEND LIVE! 360 ORLANDO

FULL DAY HANDS-ON TRAINING! Sunday
Pre-Conference Full-Day Hands-On Labs are back this year to add another full day of learning with eight options to choose from. Bring your laptop and learn by doing. (Additional fees apply, see pricing page for details).

MAKING THE CONFERENCE YOUR OWN.
Mix and match sessions and workshops from any of the six events to best serve your needs. Because of the convenient co-location, there will be even more opportunities to access 200+ sessions, 115+ speakers, 1,200+ fellow attendees, and a robust exhibit floor — all enhancing your event experience.

SPEND QUALITY TIME WITH PEERS FROM AROUND THE WORLD. Incorporating knowledge transfer, networking and leading-edge training into six intense days, these conferences will get you up-to-date on current technologies with a look to the future, while giving you the opportunity to network with fellow tech pros from points around the globe!

IT’S CALLED LIVE! 360 FOR A REASON.
Not only do we cover a full circle of technologies, but we feature both unbiased industry experts and Microsoft insiders, so you’ll hear every side of the story on the most recent software and industry updates.

CHOOSE YOUR SESSIONS BY JOB ROLE. These forward-thinking and educational events are geared toward 5 general job roles: Developer, IT Pro, DBA, SharePoint Specialist, BI Professional/Data Scientist. Whether you are a developer who uses Visual Studio or a team lead in charge of implementing Agile, or an IT Pro who is looking to improve your technical skills or just getting into your SharePoint administrative duties, or a SQL Server DBA looking to maintain, tune and consolidate, the agendas are crafted for (almost) every IT title.

6 GREAT CONFERENCES; 1 LOW PRICE!
Attend any one of the Live! 360 events and you’ll have unlimited access to all six events – including our Cloud & Containers Live! conference that is new this year -- and it’s all included in one low price!

THE ULTIMATE EDUCATION DESTINATION.
Located at the beautiful (and attendee favorite) Royal Pacific Resort at Universal Orlando, the setting and time of year are perfect for bringing the family along to enjoy all that Orlando has to offer.

REGISTER NOW AT LIVE360EVENTS.COM/ORLANDO
The Fun Stuff:
LIVE! 360 ORLANDO EVENTS & ACTIVITIES

YOUR ATTENDANCE AT LIVE! 360 is about learning from your peers as well as the experts; make the most of your time with us and add these events and activities to your itinerary!

DINE-A-ROUND DINNER
Monday, November 18, 6:30 – 8:00pm
Hard Rock Cafe, Universal CityWalk
Join other conference attendees and speakers for a casual, no-host dinner and make a few new friends while enjoying the fun and delicious themed restaurants at Universal CityWalk. This is your opportunity to meet fellow attendees and start friendships that can last for the week or even longer. Groups can break into smaller groups based on where everyone wants to dine and head off to dinner. Everyone is responsible for their own dinner and drinks.

BIRDS-OF-A-FEATHER LUNCH
Wednesday, November 20, 12:30 – 1:30pm
Plumb the knowledge and experience of your colleagues, conference speakers and exhibitors by participating in one of the Birds-of-a-Feather table discussions. These tables are designated with a sign and seating is on a first-come basis. There will be a wide variety of topics covering all Live! 360 events and many tables will host a conference speaker to keep the conversation going.

LIVE! 360 DESSERT LUAU
Wednesday, November 20, 7:30 – 9:00pm
Come celebrate the South Pacific with delectable desserts, drinks and fabulous entertainment! Mingle with fellow attendees and speakers while enjoying the warm Florida winter weather. Settle down under the stars to enjoy delicious desserts and specialty cocktails, and an authentic Polynesian performance including dancers and fire throwers.

EXHIBITOR WELCOME RECEPTION
Tuesday, November 19, 5:30 – 7:30pm
Expo Hall
Enjoy drinks and snacks while you explore the Live! 360 exhibits and network with fellow attendees and speakers. This is your chance to check out the latest offerings from our exhibitors to help you in daily life when you return to the office.
LIVE! 360 KEYNOTES & EVENTS
Get the lowdown on current Microsoft strategy, keep up with where technology is going, and hear different viewpoints on hot topics. Strengthen your career and sharpen your mind with awesome "insider" keynotes, and panel discussions.

TUESDAY LIVE! 360 KEYNOTE:
The Power of Real World DevOps
Tuesday, November 19, 11:00am – 12:00pm
It is now 2019 and good DevOps practices are no longer just nice to have. It is absolutely necessary to continuously deliver value to our end users. Yet this isn’t easy to do right. Unfortunately, all the flashy Hello World DevOps demos we see at conferences don’t really help us figure out how to do DevOps in the real world. They don’t even let us know what is possible.

In this session, we change all of that. We will explore the why’s and the how. Why is DevOps important? Why do we care? How do we implement DevOps best practices? And finally, we will do a real world deep dive.

Starting from nothing at all except source code (and I mean NOTHING. No infrastructure at all) we end with a complex modern application deployed all the way out into production hosted in the cloud.

We will touch on all modern technologies and techniques. From Infrastructure as Code to setting up DNS. From web front ends, to deploying databases with API’s in Kubernetes clusters and even mobile apps. All within our pipelines. With the right tooling, anything is possible. And in this session, you will see all this happen live with DevOps best practices including IaC, Database DevOps, Security and Quality!

Bradley Ball
Sr. Azure Engineer, Azure FastTrack CXP, Microsoft
Andrew Brust
Founder and CEO, Blue Badge Insights
Ben Curry
Managing Partner, Summit 7
Peter Daalmans
Principal Consultant and Trainer, Daalmans Consulting
Joseph D’Antoni
Principal Consultant, Denny Cherry and Associates Consulting
Marcel de Vries
CTO, Xpirit
Billy Hollis
XAML Slinger
Dave Kawula
Principal Consultant, TriCon Elite Consulting
Raj Krishnan
Cloud Solution Architect, Microsoft
Sami Lahto
Senior Cloud Advocate, Microsoft
Jessica Deen
Azure Avenger, Microsoft
Abel Wang
Senior Cloud Developer Advocate, Microsoft

THURSDAY NETWORKING EVENT:
Next? Live! 360 Networking Event
Thursday November 21, 4:00 – 5:00pm
After a week of intense learning, what’s next for you and your current projects? Part Q&A with speakers and conference chairs and part peer exchange, you can use this time to network with your fellow Live! 360 attendees and select speakers to discuss the best ways to move your projects to the next level.

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Andrew Brust
Founder and CEO, Blue Badge Insights
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Dave Kawula
Principal Consultant, TriCon Elite Consulting
Raj Krishnan
Cloud Solution Architect, Microsoft
Sami Lahto
Senior Cloud Advocate, Microsoft

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WEDNESDAY LIVE! 360 KEYNOTE:
Why So Serious? The Importance of Comedy in Tech
Wednesday, November 20, 11:30am – 12:30pm
Details coming soon.

Chloe Condon
Senior Cloud Advocate, Microsoft
Abel Wang
Senior Cloud Developer Advocate, Microsoft

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Why So Serious? The Importance of Comedy in Tech
Wednesday, November 20, 11:30am – 12:30pm
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Senior Cloud Advocate, Microsoft
Abel Wang
Senior Cloud Developer Advocate, Microsoft

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XAML Slinger
Dave Kawula
Principal Consultant, TriCon Elite Consulting
Raj Krishnan
Cloud Solution Architect, Microsoft
Sami Lahto
Senior Cloud Advocate, Microsoft
Conference Keynotes

**KEYNOTE:**
Programming Smart Contracts in C# and .NET

Tuesday, November 19, 8:00 – 9:00am

John deVadoss
Head, Development & Harry Pierson, Chief Architect,
NEO Global Development

Blockchain platforms are decentralized application platforms that enable developers to envision and build truly decentralized systems and services. These can span all manner of markets, including financial markets, gaming, enterprise consortiums, sports, healthcare networks, sovereign identities, real estate, and other asset markets and more.

A Smart Contract is code running on a blockchain platform that enables the transfer and management of assets across multiple entities and it is the cornerstone of this new era of decentralized applications and services.

In this session you will learn how to program Smart Contracts in the languages that you already know, including C#, TypeScript, Python, et al on the NEO blockchain platform.

**KEYNOTE:**
SQL Server 2019 Big Data Clusters – Unifying Relational and Big Data

Tuesday, November 19, 8:00 – 9:00am

Rony Chatterjee
Senior Program Manager on Azure Data,
Microsoft

SQL Server 2019 Big Data Clusters is one of the biggest releases since the birth of SQL Server. We will discuss how this product was built solving the issues customers constantly face. We will discuss in depth the concept of data virtualization and the benefit it provides over conventional ETL. We will also show the architecture on which SQL Server 2019 Big Data Clusters were built and the choice of the platform we used. We will also discuss how we are bringing SQL Server and Spark as the two compute engines over SQL and HDFS and how we built a unified data analytics platform with SQL Server ML Services and Spark ML and as we prepare to build for enterprise grade Machine Learning. We will also show how this entire product was built thinking about the user experience and how we optimized this experience in Azure Data Studio.
CONFERENCE KEYNOTES (continued)

KEYNOTE:
Getting Employees to (Really) Adopt New Technology
Tuesday, November 19, 8:00 – 9:00am

Stephen Rose
Marketing and Storytelling Lead, Microsoft 365 Team, Microsoft

You have spent months researching, selecting, and launching that new software that will revolutionize how your employees work; but, will your employees adopt it and want to use it? Did you know that 80% of your expected results will be driven by just 20% of the features and functionality? In this session, we look at end users’ fear of change, the importance of a change management plan, and tips and tricks on getting end users to adopt and actually use those new “game changing” apps. Hear from change management professionals and real customers on how they achieved roll-out success and usage, as well as learn about the many free tools and services available to help make your next roll out a success.

Since 2009 Stephen Rose has lead technical product marketing for a wide variety of products including Windows, Surface, Office 365 and OneDrive. He now heads up marketing and storytelling for the Microsoft 365 team which brings his career full circle. Stephen holds over 20 technical certifications and been certified since Windows NT 4.0 and (sadly) still remembers what an IRQ is. In 2015 he was awarded to the Microsoft Platinum Circle of Excellence. This is Stephen’s 6th TechMentor speaking appearance.

KEYNOTE:
From Zero to AI Hero–Automatically generate ML models using Azure Machine Learning service, Automated ML
Tuesday, November 19 8:00 – 9:00am

Sujatha Sagiraju
Automated Machine Learning Group Program Manager, Azure Cloud and Artificial Intelligence, Microsoft

Automated ML is an emerging field in Machine Learning that helps developers and new data scientists with little data science knowledge build Machine Learning models and solutions without understanding the complexity of Learning Algorithm selection, and Hyper parameter tuning. With Azure Machine Learning’s automated machine learning capability, given a dataset and a few configuration parameters, you will get a trained high quality Machine Learning model for the dataset that you can use for Predictions. You will learn how enterprise customers are using it for productivity gains, empowering domain experts to build ML based solutions and scale to build several models with Azure Machine Learning’s automated ML.

Sujatha Sagiraju is a group program manager in the Azure Cloud and Artificial Intelligence group. Her expertise is in building large scale distributed systems. Her latest mission is accelerating and scaling artificial intelligence via automated machine learning. She has been at Microsoft since 2001 and worked on several products as a developer and program manager. She has led many diverse large scale efforts at Microsoft including enabling code testing during production in Bing, the first time ever at Microsoft and driving Bing latency below 1 second for the first time ever. She built a team of network engineers, developers, program managers, and finance experts – to improve the customer network experience at Azure, Microsoft’s cloud computing service. Sujatha is a diversity and inclusion champion at the Azure Artificial Intelligence platform organization and is passionate about recruiting, mentoring and growing diverse talent.
CONFEREE KEYNOTES (continued)

**KEYNOTE:**
The Future of Microsoft 365 Development and What You Need to Know Now!

Tuesday, November 19, 8:00 – 9:00am

Cathy Dew  
Senior Program Manager, OneDrive and SharePoint Team, Microsoft

Learn more about what’s new and how you should be approaching development in Microsoft 365 with SharePoint, OneDrive, Teams and Graph. IT Pros and Devs both need to know what’s new and how to plan for new features rolling out for development in Microsoft 365. Creating more secure, scalable, and manageable customizations for Microsoft 365 is in everyone’s best interest. Get educated and start planning now!

**KEYNOTE:**
To Be Announced

Tuesday, November 19, 8:00 – 9:00am

Details coming soon.
Panel Discussions
Get the full 360 degree perspective and hear different viewpoints on hot topics. Strengthen your career and sharpen your mind with these expert panel discussions.

Visual Studio Live! Panel Discussion:
IS THERE SUCH A THING AS A “FULL STACK” DEVELOPER IN 2019?
Thursday November 21, 11:00am – 12:00pm
You're busy. Tech is moving faster and you have to know it all. Or do you? Come to this panel discussion to hear our speakers’ thoughts and ask your questions about being a multi-talented master or a deep subject matter expert—or even something in between.

Brian Randell (Moderator)
Partner, MCW Technologies

Adam Furmanek
Software Developer, Amazon

Oren Novotny
Chief Architect, DevOps & Modern Software, Insight

Matthew Soucoup
Senior Cloud Developer Advocate, Microsoft

Alex Thissen
Architect, Lead Developer, and Mentor

SQL Server Live! Panel Discussion:
SQL SERVER IS DEAD, LONG LIVE SQL SERVER!
Thursday November 21, 11:00am – 12:00pm
Wherever you look, there seems to be some kind of “relational databases are dead” story. We know that SQL Server isn't dead, heck it's not even sleeping. SQL Server is constantly changing and adapting while still providing a consistent, proven platform for Enterprise database needs. But we also know that SQL Server is not the only tool people are using to satisfy their data requirements.

Our panel of speakers have a few things to say on this matter. They are data professionals with deep experience inside, and outside, the world of SQL Server. Attend this panel discussion and learn more about how, and why, SQL Server has changed over the years. Bring your questions, too, as the discussion is meant to help you understand how SQL Server fits inside the larger Microsoft Data Platform.

Thomas LaRock (Moderator)
Head Geek, SolarWinds

Karen Lopez
Data Evangelist, Space Enthusiast, & NASA Datanaut

Bradley Ball
Sr. Azure Engineer, Azure FastTrack CXP, Microsoft

Jen Stirrup
Principal, Data Relish Ltd.

Joseph D’Antoni
Principal Consultant, Denny Cherry and Associates Consulting
TechMentor Panel Discussion:
THE FUTURE OF IT
Thursday November 21, 11:00am – 12:00pm

If something is certain in IT it’s change. With the current pace of getting a new operating system version two times a year and keeping the management tools around them up to date it’s no wonder one feels a little dizzy with the amount of things to learn. Hear from the industry experts on what is actually important to focus on and how to deal with this rapid change in real life. The panel is comprised of the world’s leading experts on multiple technologies and topics so if you can’t get your question answered here then you probably can’t get it answered anywhere.

Sami Lahti (Moderator)
Senior Technical Fellow, Adminize

Petri Paavola
Yodamiitti Oy

Dave Kawula (Moderator)
Principal Consultant, TriCon Elite Consulting

Émile Cabot
Principal Consultant, TriCon Elite Consulting

Panu Saukko
Consultant / Trainer, ProTrainIT

Artificial Intelligence Live! Panel Discussion:
AI: FOR DATA SCIENTISTS OR DEVELOPERS?
Thursday November 21, 11:00am – 12:00pm

AI and machine learning have long been a bastion of data scientists. But if AI is to go mainstream in the enterprise, we need to get developers in on the game too. With offerings like Azure Cognitive Services, the Bot Framework, and the advent of Automated Machine Learning (AutoML), that is starting to happen. And with the array of sample notebooks and other learning materials, even “manual” ML is becoming accessible to a wider range of tech professionals. What can we do to accelerate the onboarding of developers into the AI world? And, when we succeed, what will the role of the data scientist be? Join this panel of experts to hear their views and ask what they think is coming next.

Andrew Brust (moderator)
Founder and CEO, Blue Badge Insights

Raj Krishnan
Cloud Solution Architect, Microsoft

Kevin Feasel
Predictive Analytics Manager, ChannelAdvisor

Heather Downing
Coder. Entrepreneur. Passionate for the impossible
Office & SharePoint Live! Panel Discussion: PRIVACY, SECURITY, AND COMPLIANCE IT’S A "WE" PROBLEM

Thursday November 21, 11:00am – 12:00pm

Everyone knows that privacy, security, and compliance are important. Who is actually responsible in the enterprise for ensuring that policies are followed and enforced. Who decides what the policies are and how they are implemented? What controls are available in Office 365 for managing and maintaining security and compliance? Join us for a lively discussion to debate who is ultimately responsible and who needs to be held accountable for securing the enterprise.

Matthew McDermott
Principal Technical Marketing Engineer, Spanning Cloud Apps

Bill Ayers
Consultant Developer & Solution Architect

Ben Curry
Managing Partner, Summit 7

Agnes Molnar
Founder, Managing Consultant, Search Explained

Eric Shupps
Founder & President, BinaryWave

Cloud & Containers Live! Panel Discussion:
WHAT THE CLOUD-NATIVE EVOLUTION MEANS TO YOU

Thursday November 21, 11:00am – 12:00pm

Join our panel of expert speakers in a discussion around cloud-native infrastructure, DevOps, and software development and what it means to you. This is your chance to ask your most burning questions and get answers from folks that are “in the trenches” building and deploying cloud-native solutions.

Rockford Lhotka (Moderator)
CTO, Magenic

Vishwas Lele
CTO, Applied Information Sciences

Marcel de Vries
CTO, Xpirit

Nick Pinheiro
Cloud & Software Architect, Microsoft

Jen Tong
Security Advocate, Google
## AGENDA-AT-A-GLANCE

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<th>Developing New Experiences</th>
<th>Delivery and Deployment</th>
<th>.NET Core and more</th>
<th>Full Stack Web Development</th>
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### Visual Studio Live! Full Day Hands-On Labs: Sunday, November 17, 2019

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<th>Session Details</th>
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<tbody>
<tr>
<td>7:15 AM</td>
<td>9:00 AM</td>
<td>Registration • Coffee and Morning Pastries</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>6:00 PM</td>
<td>Hands-On Lab: Xamarin—Beyond the Basics - Marcel de Vries &amp; Roy Cornelissen</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>7:00 PM</td>
<td>Pre-Conference Registration - Royal Pacific Resort Conference Center</td>
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### Visual Studio Live! Pre-Conference Workshops: Monday, November 18, 2019

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<td>8:30 AM</td>
<td>Registration • Coffee and Morning Pastries</td>
</tr>
<tr>
<td>8:30 AM</td>
<td>5:30 PM</td>
<td>Workshop: Developing Modern Web Apps with Azure - Eric D. Boyd</td>
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<tr>
<td>6:30 PM</td>
<td>8:00 PM</td>
<td>Dine-A-Round Dinner @ Universal CityWalk - 6:30pm - Meet at Conference Registration Desk to walk over with the group</td>
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### Visual Studio Live! Day 1: Tuesday, November 19, 2019

<table>
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<td>8:00 AM</td>
<td>9:00 AM</td>
<td>VISUAL STUDIO LIVE! KEYNOTE: Programming Smart Contracts in C# and .NET John deVadoss, Head, Development &amp; Harry Pierson, Chief Architect, NEO Global Development</td>
</tr>
<tr>
<td>9:15 AM</td>
<td>10:30 AM</td>
<td>Moving to ASP.NET 2.X — Core Hands - Philip Japikse</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>11:00 AM</td>
<td>Networking Break • Visit the EXPO - Pacifica 7</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>12:00 PM</td>
<td>LIVE! 360 KEYNOTE: The Power of Real World DevOps Jessica Deen, Azure Avenger, Microsoft &amp; Abel Wang, Senior Cloud Developer Advocate, Microsoft</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>12:45 PM</td>
<td>Lunch • Visit the EXPO</td>
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<tr>
<td>12:45 PM</td>
<td>1:30 PM</td>
<td>Dessert Break • Visit the EXPO</td>
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<td>1:30 PM</td>
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<td>Fast Focus: Hybrid Web Frameworks - Allen Conway</td>
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<td>Fast Focus: Progressive Web Apps (PWA) Empowering Cloud-based Web Applications for Devices - Andreas Erben</td>
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<td>Networking Break • Visit the EXPO - Pacifica 7</td>
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Speakers and sessions subject to change
AGENDA-AT-A-GLANCE (continued)

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<tr>
<th>DevOps in the Spotlight</th>
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<td><strong>VISUAL STUDIO LIVE! DAY 1: TUESDAY, NOVEMBER 19, 2019 (continued)</strong></td>
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<td>2:45 PM</td>
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<td>VST11 What’s New in .NET Core 3 For Web Developers - Philip Japikse</td>
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<td>VST12 Blazing the Web—Building Web Applications in C# - Jason Bock</td>
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<td>VST13 Cosmos DB Applications: Part I - Leonard Lobel</td>
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<td>VST14 To Be Announced</td>
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<td>VST15 Getting Pushy with SignalR and Reactive Extensions - Jim Wooley</td>
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<td>VST16 When “We are down” is Not Good Enough. Site Reliability Engineering (SRE) in Azure - René van Osbrugge</td>
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<td>VST17 Cosmos DB Applications: Part II - Leonard Lobel</td>
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<td>VST18 What’s New in C#8 - Jason Bock</td>
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**VISUAL STUDIO LIVE! DAY 2: WEDNESDAY, NOVEMBER 20, 2019**

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<td>8:00 AM</td>
<td>9:15 AM</td>
<td>VSW01 Migrating from AngularJS to Angular + TypeScript - Allen Conway</td>
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<td>9:30 AM</td>
<td>10:45 AM</td>
<td>VSW02 AR/VR/Mixed Reality and HoloLens—Making it Real and Useful - Andreas Erben</td>
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<td>9:30 AM</td>
<td>10:45 AM</td>
<td>VSW03 Scrum Under a Waterfall - Benjamin Day</td>
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<td>Networking Break • Visit the EXPO - Pacifica 7</td>
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<td>11:30 AM</td>
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<td>Live! 360 KEYNOTE: To Be Announced</td>
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<td>12:30 PM</td>
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<td>Birds-of-a-Feather Lunch</td>
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<td>2:00 PM</td>
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<td>VSW09 Extending ASP.NET Core Identity to Suit Your Needs - Jeremy Sinclair</td>
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<td>3:15 PM</td>
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<td>VSW10 (WPF + WinForms) + .NET Core = Modern Desktop - Oren Novotny</td>
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<td>4:00 PM</td>
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<td>VSW11 Feature Flags for Better DevOps - Mickey Gousset</td>
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<td>Networking Break • Visit the EXPO • Expo Raffle @ 3:30 p.m. - Pacifica 7</td>
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<td>6:30 PM</td>
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<td>VSW12 Diving Deep into Entity Framework Core 2.x - Philip Japikse</td>
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<td>VSW13 Introduction to Webpack - Chris Klug</td>
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<td>VSW14 Make Your WPF Applications Shine with Fluent Design - Jeremy Sinclair</td>
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<td>VSW15 DevOps for Desktop Apps - Oren Novotny</td>
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<td>VSW16 Run Faster: Parallel Programming in C# - Jeremy Clark</td>
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Speakers and sessions subject to change
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<tbody>
<tr>
<td><strong>Visual Studio Live! Day 3: Thursday, November 21, 2019</strong></td>
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<td>8:00 AM</td>
<td>9:15 AM</td>
<td><strong>VSH01</strong> Advanced Fiddler Techniques - Robert Boedigheimer</td>
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<td>8:00 AM</td>
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<td><strong>VSH02</strong> Release Management Strategies for Xamarin Developers - Matthew Soucoup</td>
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<td>8:00 AM</td>
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<td><strong>VSH03</strong> DevOps ICU: Improving Software Dev Results by (Correctly) Integrating UX - Debbie Levitt</td>
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<td>8:00 AM</td>
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<td><strong>VSH04</strong> Async internals in .NET - Adam Furmanek</td>
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<td><strong>VSH05</strong> Improving Web Performance - Robert Boedigheimer</td>
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<td><strong>VSH06</strong> Cross-Platform Development with Xamarin, Blazor, C# and CSLA .NET - Rockford Lhotka</td>
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<td><strong>VSH07</strong> DevInSecOps - Doyle M. Turner</td>
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<td><strong>VSH08</strong> Internals of Exceptions - Adam Furmanek</td>
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| 11:00 AM | 12:00 PM | **VISUAL STUDIO LIVE! PANEL DISCUSSION: Is There Such A Thing As A “Full Stack” Developer in 2019?**  
Brian Randell (moderator), Adam Furmanek, Oren Novotny, Matthew Soucoup, & Alex Thissen |
| 12:00 PM | 1:00 PM | **Lunch - Oceana Ballroom** |
| 1:00 PM | 2:15 PM | **VSH09** Overcoming Virtual Challenges: Strategies to Increase Engagement in Distributed Agile Teams - Heidi Araya |
| 1:00 PM | 2:15 PM | **VSH10** Place Your Bets: What Will Be the Next Breakthrough Dev Platform? - Billy Hollis |
| 2:30 PM | 3:45 PM | **VSH11** Growing your DevOps mindset - René van Osnabrugge |
| 2:30 PM | 3:45 PM | **VSH12** From .NET to .NET Core for Cloud Solutions - Alex Thissen |
| 3:30 PM | 4:45 PM | **VSH13** Closing The Feedback Loop: Unblock Your Agile/DevOps Transformation - Heidi Araya & Esteban García |
| 4:00 PM | 5:00 PM | **VSH14** The Most Important Lessons Learned in Forty Years of Developing Software - Billy Hollis |
| 4:00 PM | 5:00 PM | **VSH15** (IAM) Secured - Doyle M. Turner |
| 4:00 PM | 5:00 PM | **VSH16** Building Real World Production—Ready Web API’s with .NET Core - Alex Thissen |

### Next? Live! 360 Networking Event
Bradley Ball, Andrew Brust, Ben Curry, Peter Daalmans, Joseph D’Antoni, Marcel de Vries, Billy Hollis, Dave Kawula, Raj Krishnan, Thomas Sami Laiho, LaRock, Vishwas Lele, Rockford Lhotka, Karen Lopez, Matthew McDermott, Agnes Molnar, Brian Randell, Panu Saukko, Jen Stirrup, & Alex Thissen

| **Visual Studio Live! Post-Conference Workshops: Friday, November 22, 2019** |
|-------------------------|-----------------------|-----------------------------|-------------------------|------------------|---------------------------|
| 7:30 AM | 8:00 AM | **Registration • Coffee and Morning Pastries** |
| 8:00 AM | 5:00 PM | **VSF01** Workshop: Design an App UX in a Day - Billy Hollis |
| 8:00 AM | 5:00 PM | **VSF02** Workshop: Web Development in 2019 - Chris Klug |

Speakers and sessions subject to change
FULL DAY HANDS-ON LABS

These instructor-led, pre-conference Hands-On Labs offer attendees intensive in-depth training before the conference officially begins. Choose from eight extended 8-hour labs and take advantage of in-person instruction as well as collaboration with peers.

Attendance for each Hands-On Lab is limited, so be sure to sign up early for these special bring your own laptop pre-conference HOLs.

VSS01 Hands-On Lab: Xamarin - Beyond the Basics
Introductory / Intermediate
MARCEL DE VRIES & ROY CORNELISSEN
Sunday, November 17, 9:00am – 6:00pm

So you think you know how to build mobile apps with Xamarin? Sure, we believe you can build a basic mobile app that works. But how do you create an app that sticks? How do you delight your users with a fast, responsive, and intuitive app? In this full-day hands-on workshop, Roy and Marcel will guide you through several advanced scenarios. You will start with a basic app which has all the common flaws we see today in many mobile apps, and you will learn how to improve the app in such a way that your user will be ecstatic.

Advanced Xamarin Forms - Forms Shell, Visual (theming), performance, and more
Resilient connected & disconnected clients - Local database, background sync, graceful error handling
Integrating with OS services - Calling, Text/SMS, Calendar, Contacts
Notifications - Remote notifications, local notifications, interactive notifications

VSS02 Hands-On Lab: Busy Developer’s Guide to React
TED NEWARD
Sunday, November 17, 9:00am – 6:00pm

In the world of the Single-Page Application (SPA), one name that appears over and over again is that of React, a JavaScript web framework that does things a little differently--and with great effect. But getting started with React is a higher bar than some other JavaScript frameworks, because if you don’t do things the way React intends, it gets really tricky really quickly. In this workshop, we'll start from zero, with a little TypeScript, then start working with React: its core constructs and how it works with components, modules, and of course the ubiquitous model/view/controller approach. Bring your laptop, a buddy, and a caffeinated beverage of your choice, because once you strap in, it's going to be a hands-on lecture/lab ride.

Learning points:
- React’s core constructs
- How React works with components and modules
- How to use React in a model/view/controller approach

VSS03 Hands-On Lab: Building Modern ASP.NET Core Web Apps the Right Way with Azure DevOps (2-Day Lab)
PHILIP JAPIKSE & BRIAN RANDELL
Sunday, November 17, 9:00am – 6:00pm
Monday, November 18, 8:30am – 5:30pm

DevOps is an organizational transformation that starts with people, process, and then products. It’s a journey of continuous improvement that requires changes just about everywhere. With Microsoft’s announcements this year regarding .NET 4.8 and .NET Core, we think you might want to dive in and learn .NET Core with ASP.NET. And from what you’ve heard, having an integrated DevOps process for your team makes it even better.

As a developer, how can you embrace DevOps at a more technical level? You’ve heard you need to change the way you work with version control—trunk-based development? The idea of feature flags sound intriguing but how do you do it? Do you still need testers? How do you get to “10 plus deploys a day”?

It this two-day, hands-on workshop, Brian and Phil will break the workshop into five parts where we’ll start with nothing and end with an ASP.NET Core/EF Core app and a SQL Server database running in Azure and Docker with a full continuous integration / continuous deployment (CI/CD) pipeline managed by Azure DevOps.

First, there will be a review on the current thinking on DevOps. Next will be the planning & tracking phase where the architecture of the app will be broken out and defined. Then the dev & test phase where we get feature flags implemented, CI builds working, manual and automated tests, and more. In the release phase, will look at how you create a deployment pipeline to multiple environments and how you validate a deployment after its release using Azure App Services (both web apps and containers). Finally, the monitor & learn phase will cover analytics and user feedback and how you start the cycle over again.

By the end of the two-day hands-on lab you’ll have your own Azure DevOps organization with a CI/CD pipeline configured, a deployed app, and the hands-on experience...
VISUAL STUDIO LIVE! SESSION DESCRIPTIONS BY TRACK (continued)

on how to build a modern ASP.NET Core/EF Core solution that runs in Azure using Azure DevOps.

**Attendee Requirements:**
Experience with C# coding and basic SQL Server knowledge required.

Each attendee will need the following, ready to go, for the hands-on workshop:
- A Windows x64 computer with Wi-Fi where you have local administrator rights
- A modern development environment like Visual Studio 2019 or Visual Studio Code. Specific versions and details will be provided at least one month before the workshop.
- Docker Community Edition
- A valid, active Azure subscription where you, the attendee, are an administrator
- A Microsoft Account (aka a Live ID/Xbox ID)

**WORKSHOPS**
Choose from a wide range of content and topics by expert presenters with Live! 360 Orlando’s Pre- and Post-Conference full-day workshops.

**VSM01 Workshop: Developing Modern Web Apps with Azure**
*Introductory / Intermediate*

**ERIC D. BOYD**
Monday, November 18, 8:30am – 5:30pm

Modern web apps typically consist of web front-ends, web APIs and background jobs, and these all need to be secured with modern identity protocols. These modern web apps typically store data in multiple data platforms including relational databases like SQL Server, NoSql JSON document databases, and files. And we ultimately want to provide great experiences and solutions that our users love to use.

Microsoft Azure enables these modern web apps by providing lots of data centers around the world, a huge collection of services that enable robust capabilities in your web apps, and a developer-friendly environment that makes it easy for you to create, deploy and manage your web apps.

In this workshop, you will walk through building a modern web app using platform as a service (PaaS), software as a service (SaaS), serverless capabilities, containers, and microservices architectures in Azure. You will learn how to do background processing without needing to manage servers and virtual machines. And you will learn how to build and manage robust APIs. Throughout the development of the application, we will provision services and deploy in Azure, and you will learn to think about DevOps early on using tools like Azure DevOps and Azure Resource Management.

Next, we will enable modern identity in our application using OpenId Connect and OAuth 2.0 with Azure Active Directory. We will explore both the consumer scenarios using AAD B2B, and we will also consider the consumer scenarios using AAD B2C. In addition to getting information about a user via security claims, you will learn how to interrogate the Azure Active Directory Graph API to get additional information. In addition to Azure Active Directory, we will explore alternatives like IdentityServer.

Then, we will integrate data into our application using various data services like Azure SQL Database, Storage and Cosmos DB.

Lastly, we will optimize user experience, performance and availability by using application-level caching, edge routing using Azure Traffic Manager, and edge caching using Azure CDN. And we will explore security and disaster recovery in Azure.

Before we conclude, we will also consider adding further capabilities including search and AI using services like Azure Search, Cognitive Services and Azure Bot Service.

You will learn:
- How to get started with Azure
- How to use Azure SQL DB, Azure Storage, and Cosmos DB for your data
- Running web apps in Azure App Service, Azure Functions and Azure Kubernetes Services (AKS)

**VSM02 Workshop: A Tour of Visual Studio 2019**
*Intermediate*

**JASON BOCK**
Monday, November 18, 8:30am – 5:30pm

Visual Studio is used by many .NET developers to create their applications, but just how well is the tool known? The capabilities and features within Visual Studio are vast, so much so that users may not be aware of everything that Visual Studio has to offer. In this workshop, you’ll get a fast-paced tour of the Visual Studio landscape, like configuration, debugging, code analysis, unit testing, performance, metrics and so much more. You’ll also see new features that are in Visual Studio 2019. At the end of this workshop, you’ll have a solid understanding of Visual Studio to quickly develop reliable, maintainable solutions.

You will learn:
- Understand the vast Visual Studio ecosystem
- Gain insights into analysis tools Visual Studio to improve applications
- Learn how to extend Visual Studio with extensions and templates

**VSF01 Workshop: Design an App UX in a Day**
*Introductory*

**BILLY HOLLIS**
Friday, November 22, 8:00am – 5:00pm

If you’ve ever wanted to experience what it’s like to do hands-on design of an app, this is your chance. In this workshop, you’ll spend the first couple of hours learning the steps in a UX design process. Then you’ll be challenged to design a replacement for an existing app. You and your team will ask questions, prioritize design tasks, and then sketch and evaluate ideas. After seeing what other teams have produced, you’ll then get to do another round of ideation and sketching. We’ll finish up by have the class as a whole do evaluation on designs, with prizes for the team producing the winner.
VISUAL STUDIO LIVE! SESSION DESCRIPTIONS BY TRACK (continued)

You will learn:
• A lightweight UX design process optimized for developers
• Get hands-on experience at design techniques
• How to help your own team embrace UX design as a discipline

VSF02 Workshop: Web Development in 2019
Intermediate
CHRIS KLUG
Friday, November 22, 8:00am – 5:00pm
Being a web developer is hard! Very hard! The world around us changes at a pace that would make most people dizzy! And if you are in the Microsoft space, and using Visual Studio for example, the release cadence of the IDE is WAY too slow to keep up. You really have to go outside your comfort zone and locate other tools that can help you. Tools that will do what you want, but will still work together with your existing tools. You will probably also have to leave your Microsoft path and look at non-Microsoft technologies and frameworks. Something that can be a bit scary to be honest… But you might be surprised by what you find!

A few years ago, Chris Klug returned to web development after doing other things… cough… Silverlight… cough… What he returned to was very different to what he had left! The tools were different, the pace ridiculous, and the pressure to keep up was high. But he also found a new passion for front-end web development! Something that can make all the difference. DevOps is about continuous value delivery. You have a role to play when it comes to DevOps, and in this track, you’ll learn the about the tools, techniques, and concepts that you can immediately apply to your daily work.

You will learn:
• What technologies and languages are used for web development today
• What the “new” tools do, and when to use them
• A general foundation about modern web development, and why it is many steps in the right direction compared to previous years

DEVOPS IN THE SPOTLIGHT
DevOps has been called the second decade of Agile. As we start to get to the end, DevOps is the way modern teams deliver value. As an organizational transformation, DevOps starts with people, better process and then, yes, great products can make all the difference. DevOps is all about continuous value delivery. You have a role to play when it comes to DevOps, and in this track, you’ll learn the about the tools, techniques, and concepts that you can immediately apply to your daily work.

You’ll find coverage of:
• Azure DevOps
• How Microsoft does DevOps
• Infrastructure as Code
• Git
• Site Reliability Engineering in Azure
• Scrum under a waterfall
• Feature Flags for Better DevOps
• DevOps for Desktop Apps
• Dev in “Sec Ops”
• Better DevOps by integrating UX

VST03 How Microsoft Does DevOps
Intermediate / Advanced
PAUL HACKER
Tuesday, November 19, 9:15 – 10:30am
Learn how Microsoft has taken in its journey to DevOps over the past 8 years and completely changed their approach to building software and services. You’ll learn about Microsoft’s 90,000 engineers working in the public cloud delivering into production multiple times per day and how some products handle the different cadences of several feature teams while maintaining a single coherent and continuously integrated source of the truth. Paul explains how his team in Microsoft works and he’ll also spend significant time talking through the harder cultural change issues that were encountered and discuss how Microsoft has gone about building a new, much more sharing-focused culture inside the company. Join in to discover what Microsoft has learned so far and the next areas it will focus on.

You will learn:
• The importance of cultural changes to improve your DevOps journey
• The importance of unit testing in your DevOps pipelines
• The changes that need to be made to implement DevOps at scale

VST06 Fast Focus: What is Infrastructure as Code
PAUL HACKER
Tuesday, November 19, 1:30 – 1:50pm
Does it take you days to deploy your infrastructure? In this session we are going to introduce you to Azure Resource Manager and demonstrate how we create Azure Resource Manager (ARM) templates using Visual Studio 2017 and then deploy the infrastructure to Azure in minutes. We are going to peek under the covers of the ARM templates to show you what is going on inside the template and why you should be implementing it today. We will look at the Azure portal and walk through the infrastructure
we deployed. Lastly, we will look at the Azure Resource Template Visualizer and show you a great way to use it to get you started with ARM template creation.

You will learn:
- The structure of Azure Resource Manager templates
- How to deploy your infrastructure with Azure Pipelines
- Short cuts to get started quickly with Azure Resource Manager template creation

VST10 Fast Focus: Top Ten Git Tips
Intermediate
MICKEY GOUSSET
Tuesday, November 19, 2:00 – 2:20pm
Git is the most popular version control system among developers right now. Whether you are new to Git or have been using it for a while, you’ll learn something new in this session. Come join us on a whirl-wind tour of our top ten Git tips!

You will learn:
- How Git works behind the scenes
- How to improve your Git workflow
- Git branching strategies

VST16 When “We are down” is Not Good Enough. Site Reliability Engineering (SRE) in Azure
Introductory / Intermediate
RENÉ VAN OSNABRUGGE
Tuesday, November 19, 4:15 – 5:30pm
The more we are connected and the more others are connected to us, the more important reliability of your sites becomes.

Site Reliability Engineering is an engineering discipline devoted to helping an organization sustainably achieve the appropriate level of reliability in their systems, services, and products. But what does this mean, and how do get started with this?

In this session I will talk about the concepts of Site Reliability Engineering and use Microsoft Azure to implement some of the concepts and practices

You will learn:
- What is Site Reliability Engineering?
- How can you get started with SRE?
- How to use Azure to implement some of the SRE concepts?

VST03 Scrum Under a Waterfall
Intermediate / Advanced
BENJAMIN DAY
Wednesday, November 20, 8:00 – 9:15am
It would be so easy if everyone at our companies just used Scrum -- or at least Agile. No one would lean on the team for dates and deadlines, and everyone would know that change is a good thing. It’d be one great big happy project management family. But let’s face it -- an all-Agile organization isn’t always possible. Maybe you have a Project Management Office (PMO). Maybe you work for a government contractor. Maybe you have regulatory requirements. Maybe you’re the first Scrum/Agile project at your company. Maybe your company simply ‘likes’ it this way. Whatever the reason, Agile teams frequently report into Waterfall organizations.

Your team thinks “‘backlog’” and your bosses think “‘project plan.’” How do you make it work? How do you ensure communication and foster trust between the two groups? How do you bridge the project management impedance mismatch? You need to find a way get everybody to ‘play nice’ so they can do their jobs.

In this session, we’ll drill into the details of the project management impedance mismatch and talk about strategies to improve communication and delivery when you need to make Agile work inside a Waterfall-centric organization.

You will learn:
- What are the similarities and differences between Waterfall and Scrum/Agile?
- How do you bridge the divide between the two project management styles and cultures?

- What anti-patterns should you look out for?
- What tools can help you?

VST11 Feature Flags for Better DevOps
Intermediate
MICKEY GOUSSET
Wednesday, November 20, 2:00 – 3:15pm
Feature Flags provide a set of patterns that can help your team deliver new functionality to users rapidly and safely. In this session, Mickey will cover the what of feature flags, also known as feature toggles. You’ll then learn some uses cases for feature flags like separating code deployments from feature releases, doing canary launches, and testing in production. You’ll learn how the Azure DevOps team uses feature flags and see how you can add feature flags to your own apps with examples using ASP.NET and custom code as well as a commercial product, LaunchDarkly, which offers features flags as a service.

You will learn:
- What are feature flags
- Use cases for feature flags
- How to implement feature flags in your applications

VST15 DevOps for Desktop Apps
Introductory / Intermediate
OREN NOVOTNY
Wednesday, November 20, 4:00 – 5:15pm
Client applications have unique requirements for DevOps, this session will show you how to use Azure to deploy MSIX based applications in an efficient and secure way. We will cover branching strategies, versioning, packaging and automatic deployment using Visual Studio App Center and Azure Pipelines.

You will learn:
- Package desktop apps as MSIX
- Branching, versioning strategies
- Automatic build and deployment
VISUAL STUDIO LIVE! SESSION DESCRIPTIONS BY TRACK (continued)

**VSH03** DevOps ICU: Improving Software Dev Results by (Correctly) Integrating UX
Intermediate

DEBBIE LEVITT
Thursday, November 21, 8:00 – 9:15am

Software development methodologies lack the details of how UX fits into software dev projects. Some suggest that a Product Manager describing features is enough for developers, UX should train others to do their specialized jobs, or excluding UX experts solves them being “too siloed” and “not collaborative.” This happens with no other role in software dev; it’s hurting culture, efficiency, and productivity, and creating poor products for customers.

Your customer only sees your UX, not 1000 developers or if you were Agile or Lean. Companies are figuring out that UX specialists and the User-Centered Design process are good investments that more than pay for themselves. Recent highly-publicized UX failures remind us that skimping on the UX process can alienate customers, create negative media attention, and burn millions of dollars.

Learn how the UX process fits into software development including Agile and Lean; augments DevOps goals; increases customer satisfaction; and saves time, money, and sanity before developers write a line of code.

You will learn:
- Correct integration of UX experts and tasks saves time and money, increases productivity and efficiency, creates the best idea execution for the target customers, and keeps engineering’s changes and rebuilds to a minimum.
- How UX specialists conduct user research; design your entire product, app, website, or system; validate it through user testing; iterate to fix flaws; and deliver vetted blueprints so you can build once.
- How User-Centered Design fits into project timelines and development methodologies including Agile and Lean.

**VSH07** DevInSecOps
Introductory / Intermediate

DOYLE M. TURNER
Wednesday, November 20, 9:30 – 10:45am

Sometimes the best way to learn what to do is through looking at what not to do. In this talk, we will look at a collection of DevSecOps failures, large and small. We will touch on what went wrong, how it went wrong, the result, and how it could have been avoided. (Some names may be changed to protect the innocent)

You will learn:
- That systems of all size are privy to Security issues.
- Basics of how to perform a risk and mitigation analysis
- Implementing stop-gaps on insecure systems

**VSH09** Overcoming Virtual Challenges: Strategies to Increase Engagement in Distributed Agile Teams
Intermediate

HEIDI ARAYA
Thursday, November 21, 1:00 - 2:15pm

Distributed teams are proliferating in all kinds of workplaces, especially with software development teams. In fact, only 12% of teams in large companies have co-located teams. In this session, Heidi will discuss the different kinds of distributed teams and common challenges they face. She will address ways to improve communication and increase engagement in a virtual environment, provide recommendations to encourage better collaboration and teamwork, and describe how to have effective online meetings. At the end of the talk, listeners will leave with pragmatic tips to help remote and virtual teams be engaged, happy and productive.

You will learn:
- The value stream visualization
- Practical tips to improve your delivery time
- Ways to identify cultural challenges and some strategies to positively impact culture

**VSH13** Closing The Feedback Loop: Unblock Your Agile/DevOps Transformation
Introductory / Intermediate

HEIDI ARAYA & ESTEBAN GARCIA
Thursday, November 21, 1:00 - 2:15pm

Do you have all the fancy DevOps tools and Agile processes anyone could want, but things still take forever to get done? Do people still lack a collaborative mindset? If so, come listen to Esteban and Heidi talk about how to unstick your DevOps and Agile processes by focusing on the end to end delivery process, culture, and outcomes. After attending, listeners will leave with an understanding of the things we learned as we have navigated our way through the culture, processes, and value streams of various companies as well as practical tips to improving your delivery time and creating happier customers.

You will learn:
- About the different kinds of distributed teams
- Tips to increase collaboration and engagement in distributed teams
- How to have effective online meetings
VISUAL STUDIO LIVE! SESSION DESCRIPTIONS BY TRACK (continued)

DATABASE DEVELOPMENT

This track includes our developer-oriented coverage of Azure Cosmos DB. For coverage of SQL Server and other databases, as well as BI, Big Data, AI and machine learning, please refer to our deep and broad selection of sessions, workshops and Hands-On Labs within the SQL Server Live! and Artificial Intelligence Live! lineups.

**VST13  Cosmos DB Applications: Part I – Introduction to Cosmos DB**

*Introductory*

**LEONARD LOBEL**

Tuesday, November 19, 2:45 – 4:00pm

This session presents an overview of Azure Cosmos DB, a globally distributed, massively scalable, low (single-digit millisecond) latency, fully managed NoSQL database service that is designed specifically for modern web and mobile applications. Like other NoSQL platforms, Cosmos DB supports a schema-free data model, built-in partitioning for sustained heavy-write ingestion, and replication for high availability. But only Cosmos DB offers turnkey global distribution, automatic indexing, and SLAs for guarantees on 99.99% availability, throughput, latency, and consistency.

We begin by explaining NoSQL databases in general, and how they compare with traditional relational database platforms. Then we tour the many features of Cosmos DB, including its multi-model capabilities which allow you to store and query schema-free JSON documents (using either SQL or MongoDB APIs), graphs (Gremlin API), and key/value entities (table API). You’ll learn about global distribution, scale-out partitioning, tunable consistency, custom indexing, and more. We’ll also discuss client development using the many available SDKs. Attend this session, and get up to speed on Cosmos DB today!

**You will learn:**
- Get familiar with NoSQL databases, and Microsoft Azure Cosmos DB.
- Understand the differences between NoSQL and relational database platforms, and when to choose one or the other for your next application.
- About the unique NoSQL features of Cosmos DB, including global distribution, server-side horizontal partitioning, multi-model support, rich query over schema-free data, client development, server-side programming, tunable consistency, and automatic indexing.

**VST17  Cosmos DB Applications: Part II – Building Cosmos DB Applications**

*Introductory / Intermediate*

**LEONARD LOBEL**

Tuesday, November 19, 4:15 – 5:30pm

In this intensive demo-packed session, you’ll learn how to write applications for Cosmos DB, and see how to work with the various Cosmos DB APIs. These APIs support a variety of data models, including the SQL API (for JSON documents), Table API for (key-value entities), Gremlin API (for graphs) and Cassandra (for columnar). Regardless of what you choose as a data model of choice, you’ll learn how to provision throughput, and how to partition and globally distribute your data to deliver massive scale.

You’ll see how to migrate data from SQL Server to Cosmos DB, and how to write queries using Cosmos DB SQL. Then we’ll write data access code that creates and queries databases, collections, and documents, manages custom indexing policies, and defines users and permissions for resource-level access. We’ll also create, deploy, and execute server-side stored procedures, triggers and user-defined functions, using the Cosmos DB server-side programming model. Attend this session, and prepare to build Cosmos DB applications today!

**You will learn:**
- How to write code to build Cosmos DB applications.
- See the various Cosmos DB APIs at work: SQL, Table, Gremlin, and Cassandra.
- Use the Cosmos DB server-side programming model to run stored procedures, triggers, and user-defined functions.

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*“HAVING THE WIDE VARIETY OF SUBJECT MATTER GAVE ME EXPOSURE TO TECHNOLOGY I NORMALLY DON’T GET EXPOSURE TO.”*  
- Craig Sears, CSHA
DEVELOPING NEW EXPERIENCES

The expectations around “user experience” are being upended right before our eyes. In today’s world you need to understand not only graphical interactions with keyboard, mouse, touch, and stylus, but also gesture, 3D, mixed-reality, and more. Fortunately, we’ve got you covered with content from phones to PCs to augmented and mixed reality. This track includes coverage of the following:

- Unity for .NET Developers
- Progressive Web Apps (PWA)
- Building for the Web with Blazor and C#
- AR/VR/Mixed Reality with HoloLens
- Flutter
- WPF and Windows Forms in .NET Core 3
- WPF and Fluent Design
- Release Management for Xamarin Developers
- What’s the next “breakthrough” development platform
- Cross-platform development with C# and CSLA

VST02 A .NET Developer’s Introduction to Unity for 3D Apps & Games

**Introductory / Intermediate**

NICK LANDRY
Tuesday, November 19, 9:15 – 10:30am

Unity is the premier advanced platform and engine for developing stunning 2D, 3D, VR & holographic apps & games for all major platforms, from Windows, iOS & Android to Xbox, PlayStation & Mixed Reality. Microsoft and Unity have partnered to provide first-class support in the Unity platform for Windows 10 for free to developers, rounding out support for every major platform. Unity is also a perfect home for .NET developers, thanks to its foundation based on Mono, and scripting in C#. This session takes you through understanding the essential concepts in Unity, such as building 3D scenes with models, materials & textures, input, physics, basic animations, and more. We’ll also work through the basics of the Unity editor, the UI & tools, project assets, coding behaviors in C# with Visual Studio, and some simple but powerful techniques to get up and running fast with Unity and start creating experiences you didn’t think were possible. Lastly, we’ll quickly cover how to convert your Unity projects into Windows Mixed Reality apps that run on the HoloLens and immersive VR headsets.

You will learn:

- Understand the structure of a game project in Unity and the diverse types of assets (e.g. models, materials, sounds, etc.)
- Getting started with the Unity editor & Visual Studio to build cross-platform 3D apps & games in C#
- Converting a 3D Unity project to support Windows Mixed Reality for HoloLens & immersive VR headsets

VST08 Fast Focus: Progressive Web Apps (PWA) Empowering Cloud-based Web Applications for Devices

**Intermediate**

ANDREAS ERBEN
Tuesday, November 19, 2:00 – 2:20pm

Progressive Web Apps (PWA) are the current modern paradigm to develop web applications enabling fully embracing the power of Azure and the intelligent cloud. But there is more, when running on Windows, they can leverage the power of Windows APIs and provide users a better experience by utilizing services such as Windows Machine Learning.

In this session, attendees will learn how they can create a PWA application that runs in Azure that can integrate Windows Runtime (WinRT) APIs utilizing their existing JavaScript coding skills and see how easily Windows Machine Learning (WinML) can be added into a PWA to enable their application with advanced intelligent edge artificial intelligence processing.

You will learn:

- How to package your PWA as a UWP app
- Understand how to use native Windows APIs in a PWA for UWP
- Find out how to use Windows Machine Learning from JavaScript

VST12 Blazing the Web - Building Web Applications in C#

**Intermediate**

JASON BOCK
Tuesday, November 19, 2:45 – 4:00pm

With WebAssembly, creating web applications can be built with any programming language; JavaScript is no longer the only choice. In this session, you’ll see how you can use Blazor to run C# natively in the browser. We’ll also cover Razor Components, JavaScript interop, server-side Blazor, and so much more!

You will learn:

- Understand what WebAssembly is
- See Blazor in action
- Gain insight into the features Blazor provides

VSW02 AR/VR/Mixed Reality and HoloLens – Making it Real and Useful

**Introductory**

ANDREAS ERBEN
Wednesday, November 20, 8:00 – 9:15am

Do Holograms dream of photonic sheep? No really, what are those magical things that developers should think about when considering building applications for immersive and holographic AR/VR/MR devices beyond drawing pretty pixels in 3D space. And how can it help your organization and empower your employees? Currently some voices in the industry echo like: “What do we want? AR! VR! Mixed Reality! When do we want it? Now!”
Let’s talk how to make it useful for commercial and industrial customers and we will talk how that can be achieved.

We talk about use cases, such as industrial applications, education, healthcare or IoT integrations, but also think beyond specific use cases and spend time to cover necessary concepts. How does it all fit together and why do we sometimes say that we are dealing with a different category of computer when we talk about Microsoft’s HoloLens device for example.

You will learn:
- About Mixed Reality and what is unique about MR applications
- Understand common use cases for Mixed Reality
- Hear why Microsoft HoloLens is a different category of a computer

**VSW06 Busy Developer’s Guide to Flutter**

*Introductory*

TED NEWARD

**Wednesday, November 20, 9:30 – 10:45am**

Flutter is a new cross-mobile framework and platform (using a custom language, Dart, that started out as a JavaScript-transpiling target before it was adopted by Flutter) from Google that looks to solve some of the classic problems—such as state management and component reuse—that the native mobile languages/platforms don’t really solve. In this session, we’ll take a pass through Dart, see how Flutter works, and discuss where this fits in the world next to Xamarin, JavaScript-based toolkits like Cordova, and native Swift/iOS or Kotlin/Android.

You will learn:
- What Flutter is
- Get introduced to Dart
- Build native iOS and Android apps from one codebase

**VSW10 (WPF + WinForms) * .NET Core = Modern Desktop**

*Introductory*

OREN NOVOTNY

**Wednesday, November 20, 2:00 – 3:15pm**

Learn how .NET Core 3 brings WPF and Windows Forms into the future with a modern runtime. See what’s new for WPF and Windows Forms, learn how to easily retarget your .NET Framework application over to .NET Core, and how to get these modern desktop apps to your users.

You will learn:
- Modernize WPF & WinForms apps to run on .NET Core 3
- Ways to distribute Modern Desktop apps
- What .NET Core 3 means for desktop development

**VSH02 Release Management Strategies for Xamarin Developers**

*Intermediate / Advanced*

MATTHEW SOUCOUP

**Thursday, November 21, 8:00 – 9:15am**

Continuous Integration/Continuous Deployment (CI/CD) for mobile developers is tricky. The CI part is straightforward enough: you make your changes, push the code, and wait for the build to compile and the tests to pass. The CD part is where the bumps come in and getting your app in the hands of testers is of paramount importance. The sign and distribute process for apps is labor intensive, and worthwhile to get automated. Mobile devices are notorious for their different capabilities and screen sizes and apps are best deployed to real devices to be tested by humans. Plus, can you imagine the horror if the app you released to the store was buggy because the process you used to build and deploy to the store wasn’t the same as the test deployment?

In this session, learn how to tame the release management of mobile applications with Azure DevOps Pipelines. You’ll see how to build pipelines for Android and iOS test and store deployments while making sure important details like versioning are taken care of along the way. After this session, you’ll be continuously deploying your apps to testers and the stores in no time!

You will learn:
- Continuous Integration & Continuous Deployment practices for mobile developers
- Sign and distribute processes for ad-hoc and stores
- Managing releases with Azure DevOps

**VSW14 Make Your WPF Applications Shine with Fluent Design**

*Introductory / Intermediate*

JEREMY SINCLAIR

**Wednesday, November 20, 4:00 – 5:15pm**

Over the years, developers created desktop applications with WPF. The UWP controls in Windows 10 bring beautiful and intriguing Fluent Design, but it was only available in UWP applications. What if you want to use this design without fully migrating to a new UWP app? You can do this with XAML Islands! In this session, you will learn how to use Windows Runtime APIs with WPF. You will also learn how XAML Islands functions, and you will learn how to use the Win UI library to bring Fluent UWP controls into your existing WPF app.

You will learn:
- How to use Windows Runtime APIs in WPF
- How to implement Fluent Design easily with the Win UI library
- How to use XAML Islands in your WPF Application
VISUAL STUDIO LIVE! SESSION DESCRIPTIONS BY TRACK (continued)

**VSH06**  Cross-Platform Development with Xamarin, Blazor, C#, and CSLA .NET  
*Intermediate*

**ROCKFORD LHOTKA**  
**Thursday, November 21, 9:30 – 10:45am**

You may write your smart client app in WPF, Xamarin, WebAssembly (Blazor), or even Windows Forms. In any case, your app probably calls back-end services and needs to interact with app servers. Some or all of your business logic may run on the client, the app server, or both. That’s ideal for the balance between user interactivity, performance, scalability, and security. The widely-used open source CSLA .NET framework helps you create a reusable, scalable, and cross-platform portable business layer that lets your application run on multiple types of client devices, including the browser via WebAssembly, while sharing business logic between the clients and your app server. This session is an end-to-end walkthrough of how this works and how you can benefit.

You will learn:
- Why separation of concerns is critical to building maintainable apps
- How to use the open source CSLA .NET framework to create reusable business logic
- How to share common code across platforms including mobile and browsers

**VST09**  Fast Focus: What is WSL and Why Do I Care?  
*Introductory*

**BRIAN RANDELL**  
**Tuesday, November 19, 2:00 – 2:20pm**

WSL or the Windows Subsystem for Linux brings a real bash shell to Windows 10 and Windows Server. In this quick tour, Brian will take you from nothing to something and show you some wonderful things you can do to live a heterogeneous developer lifestyle at the command-line.

You will learn:
- Why WSL
- How to install WSL
- Ways to use WSL

**VSH10**  Place Your Bets: What Will Be the Next Breakthrough Dev Platform?  
*Introductory*

**BILLY HOLLIS**  
**Thursday, November 21, 1:00 – 2:15pm**

The crushing complexity of modern app development is building demand for a simpler way to build apps. The need for apps to move among browser, desktop, and mobile is also growing. Those needs are fueling a plethora of new development platforms: Google Flutter, the Uno Platform, Zoho Creator, Kony AppPlatform, and others. On the web side, low code alternatives such as Razor Components and PowerApps are trying to gain traction as replacements or supplements to stitch-your-own environments based on multiple JavaScript frameworks. This session will look at all of these options, evaluate pros and cons, and compare against existing alternatives such as Xamarin. Come and get a head start on the trends fueling the next generation of app development.

You will learn:
- Gain awareness of new platforms for development coming onto the scene
- Understand some of the forces driving these new platforms to market
- Pros and cons of the platforms to inform your own decisions about using these platforms

**VSH11**  Growing your DevOps Mindset  
*Introductory*

**RENÉ VAN OSNABRUGGE**  
**Thursday, November 21, 1:00 – 2:15pm**

Practicing DevOps successfully requires knowledge of hard skill areas such as continuous delivery and automated testing. But even if you have all these tools in place, you are not necessarily successful. And why is that? In most cases, the people are not in the right “state” or mindset, to actually use these new practices and tools. Fear of failure, of speaking up, motivation and drive are all factors that play an important role. Creating a culture where people show courage, work on team building, practice DevOps leadership and have a continuous improvement mindset is hard but extremely important.

In this session, I will talk about what a DevOps MindSet is. How to recognize fears and counter-productive behavior and give you some tips and insights on how to start growing a DevOps Mindset for yourself and your colleagues.

You will learn:
- What is A DevOps Mindset
- Practices and tips to create a DevOps Culture
- Overcome your fears and become a true DevOpser
VSH14  The Most Important Lessons Learned in Forty Years of Developing Software

Billy Hollis
Thursday, November 21, 2:30 – 3:45pm

In 1978, I began writing code for money for the first time. I’ve used a half dozen languages on a dozen platforms. I’ve worked alone and on large teams. Although the technology never sits still, certain aspects of software development never seem to change: arbitrary deadlines, the balance of early delivery vs. hardening apps for long shelf life, the capriciousness of bugs, and the difficulty in helping management and users understand what we do. In this session, I’ll discuss the most important ways I’ve found to cope with the complex world of development, and perhaps help others avoid some of the mistakes I’ve made over time. I’ll also keep time open at the end for you to pose your own challenges and get some ideas for meeting them.

You will learn:
• To separate the constantly changing technologies from the underlying constant realities of software development
• Absorb knowledge from some real-life incidents and case studies to help you avoid mistakes and be more successful
• Ask questions about your own challenges and get the perspective of someone with forty years of experience to draw on

.NET Core AND MORE

At the heart of the Microsoft development experience is the .NET Framework. But these days there’s so much more than just that original framework. You also need to understand .NET Standard and .NET Core, not to mention the cool features added to C# and Visual Studio. These are the base-level tools you need to know for success in the Microsoft development world.

Topics in this track include:
• What’s new in .NET Core 3
• What’s new in EF Core 3
• What’s new in C# 8
• Windows Subsystem for Linux
• .NET Core and the CLI
• EF Core Deep Dive
• Parallel programming with C#
• Async internals in .NET
• Exception internals in .NET
• Moving from .NET to .NET Core in the Cloud
• Real world production ready web APIs

VST04  What’s New in .NET Core 3.0

Jason Bock
Tuesday, November 19, 9:15 – 10:30am

.NET Core is the runtime for writing modern applications. Its speed, efficiency, and cross-platform capabilities provide .NET developers with flexibility and power. In 2019, Microsoft released .NET Core 3.0, and in this session, we’ll cover what’s been added. We’ll review new features and APIs that you can use wherever .NET Core goes.

You will learn:
• See what .NET Core provides
• Understand new features in .NET Core
• Gain insight in staying on top of new runtime versions

VST07  Fast Focus: What’s New in EF Core 3

Jim Wooley
Tuesday, November 19, 1:30 – 1:50pm

Entity Framework Core, Microsoft’s Object Relational Mapping data access tool, was re-written from the ground up with .NET Core. By taking a fresh look, a number of features were changed and re-thought. This redesign caused it to continue playing catch-up to features added in 10 years of development leading up to EF6, while also exploring new programming options that have popularized since the original design came out, including non-relational data stores. In this fast focus session, we’ll explore the additions to EF Core and how they can impact your application decisions.

You will learn:
• Explore the new features of EF Core 3
• Additional details to come as 3.0 is closer to shipping
VISUAL STUDIO LIVE! SESSION DESCRIPTIONS BY TRACK (continued)

VST18  What’s New in C#8
Intermediate
JASON BOCK
Tuesday, November 19, 4:15 – 5:30pm
C# is an open-source, mature object oriented language, used by millions of .NET developers, yet its evolution is still underway. In this session, we’ll cover the latest features that have been added to C#8 and how they work in detail so you’ll know when to use them effectively in your new .NET projects. You’ll also see the direction C# may be going with future versions of C#.
You will learn:
- See how new C#8 features work
- Understand what the features provide to use them effectively
- Gain insight into the OSS world of C# and how one can be a part of future language evolution

VSW04  Getting Started with Entity Framework Core
Introductory / Intermediate
JIM WOOLEY
Wednesday, November 20, 8:00 – 9:15am
With the cross-platform version of .Net, Microsoft has had to rewrite many of the core components that we have come to depend on. If you include data in your applications, chances are you have used Entity Framework in the past. In this session, you’ll learn how to get started using EF Core and how to handle the changes in this version.
You will learn:
- How to use the Dotnet CLI to work with Entity Framework Core
- How to create data models to work with Entity Framework Core
- Discover some performance benefits and gotcha’s with using Entity Framework Core

VSW07  Get Comfortable with .NET Core and the CLI
Introductory
JEREMY CLARK
Wednesday, November 20, 9:30 – 10:45am
.NET Core is the future of .NET. So let’s get comfortable with the creating, running, and testing applications using the command-line interface. We’ll create a self-hosted web service and then write an application to use that service. Unit tests will make sure things work along the way. Whether you’re new to .NET Core or have been using .NET Core with Visual Studio, this session will help you get up-to-speed in this powerful environment.
You will learn:
- Create new .NET Core projects
- Add references to NuGet packages and other assemblies
- Build, run, and test from the command line

VSW16  Run Faster: Parallel Programming in C#
Introductory / Intermediate
JEREMY CLARK
Wednesday, November 20, 4:00 – 5:15pm
Want to see code run 6 times faster? Join me as we use parallel programming to make full use of our multi-core systems. We’ll use techniques such as the .NET Parallel. ForEach for each, and we’ll also spin up Tasks manually to take more control over the process. Along the way, we’ll see how to write code that is easy to run in parallel (warning: it may start you down the path of functional programming). Use the hardware you have to run faster.
You will learn:
- Preparing code to run in parallel
- Using Parallel.ForEach for independent processes
- Spinning up Tasks for more control over parallel processing

VSW12  Diving Deep into Entity Framework Core 2.x
Intermediate / Advanced
PHILIP JAPIKSE
Wednesday, November 20, 2:00 – 3:15pm
ASP.NET Core has changed development of web applications and Restful services in revolutionary ways. In this session I show you what you need to know to move to ASP.NET Core.
You will learn:
- New ASP.NET Core features such as tag helpers and view components
- Changes from ASP.NET MVC and WebAPI
- Handling client libraries, bundling, minification, and more!

VSH04 - Async internals in .NET
Intermediate / Advanced
ADAM FURMANEK
Thursday, November 21, 8:00 – 9:15am
Async and await are now common elements of .NET ecosystem. Do you know how they work? Do you know what is synchronization context, how to wait for async void methods or how to implement custom task scheduler?
In this talk I show internals of async and await. I present state machine created by the compiler, consider allocation issues and show typical deadlock scenarios. We will see how to call async methods from synchronous code, how to wait for async void, how to implement custom synchronization context or task scheduler to handle exceptions, and how to run task without allocation at all.
You will learn:
- Understanding Task Parallel Library and how it’s constructed
Synchronization Context and its internals, why it is important and what are popular implementations
Understanding async code flow, thread pools, task scheduler and other components used by async state machine

VSH08 Internals of Exceptions
Intermediate / Advanced
ADAM FURMANEK
Thursday, November 21, 9:30 – 10:45am
You know how to throw and catch exception. But do you know how they are implemented internally? Do you know what is SEH, VEH and VCH in Windows? Or do you know why C# introduced exceptions filters or how to catch everything, even StackOverflowException?
In this presentation I show internal mechanisms used by Windows for handling exceptions. We will see constructs used by C++ and C# languages, CLR instructions and machine code details of those. There will be some live debugging and low to high level code.
You will learn:
• Understanding SEH mechanism used for exception handling
• Comparing exception mechanisms in multiple technologies (C++, IL, C#, Java, Python)
• Avoiding typical pitfalls when working with exceptions

VSH12 From .NET to .NET Core for Cloud Solutions
Intermediate
ALEX THISSEN
Thursday, November 21, 1:00 – 2:15pm
This session will focus on migrating your .NET Framework based solutions to .NET Core and designed to run in the cloud. During the session you are going to learn what:
• .NET Core 3.0 platform is all about
• Understand .NET Standard 1.0 to 2.1

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FULL STACK WEB DEVELOPMENT
Web development has become the dominant approach for building enterprise software. To provide your best on every project, you need to understand the server and browser client worlds. On the server, there’s ASP.NET Core with MVC, the new Razor Pages, and support for building services. The browser client is evolving rapidly, with constant changes and updates to JavaScript, TypeScript, Angular, React, and other related frameworks. But more than this, there’s now WebAssembly and the ability to run other languages natively in the browser, including C/C++, C#, and many more. Your need to keep up-to-date with all these technologies has never been greater, and we’re here to give you the knowledge you need!
Topics in this track include:
• ASP.NET Core intro and deep dive
• Hybrid web frameworks
• What’s new in .NET Core 3.0 for Web Developers
• SignalR
• Moving from Angular JS to Angular + TypeScript
• Advanced TypeScript
• ASP.NET Core Identity
• Introduction to Webpack
• Advanced Fiddler
• Improving web app performance
VST01 Moving to ASP.NET Core 2.X
Introductory / Intermediate
PHILIP JAPIKSE
Tuesday, November 19, 9:15 – 10:30am
In this session I show you how ASP.NET Core implements the Model View Controller pattern for Web Applications and the Model Controller pattern for Restful services. I cover convention over configuration, implementing Controllers and Action methods, Views (including partial views and layouts), Routing, and much more. This session is designed for developers new to the ASP.NET MVC and WebAPI frameworks.
You will learn:
• The ASP.NET Core Model View Controller pattern
• Implementing Controllers and Actions
• Views, Layouts and Partial

VST05 Fast Focus: Hybrid Web Frameworks
Introductory
ALLEN CONWAY
Tuesday, November 19, 1:30 – 1:50pm
Hybrid Web Frameworks give developers an option to create cross-platform applications using common web technologies. By working with a single codebase consisting of JavaScript, HTML, and CSS to reach both Android and iOS, your team can cut down development time and reach beyond browser-based web only applications. In this session we’ll discuss some of the mainstream frameworks like Cordova/PhoneGap, Kendo UI, and onsen ui to see how they can be leveraged to build hybrid web applications. We’ll also look briefly at the differences between “Hybrid Web Frameworks” and “Native Mobile Frameworks” and the pros and cons of each.
You will learn:
• About the concepts of Hybrid Web Development
• The differences between Hybrid Web and Native Mobile Frameworks
• About the basics of setting up a hybrid web framework project using VSCode

VST11 What’s New in .NET Core 3 for Web Developers
Introductory / Intermediate
PHILIP JAPIKSE
Tuesday, November 19, 2:45 – 4:00pm
In this session I take you through the new features in ASP.NET Core and Entity Framework Core that are coming with the .NET Core 3 release.
You will learn:
• New features in ASP.NET Core
• New features in Entity Framework Core
• Strategies for moving to .NET Core 3

VST15 Getting Pushy with SignalR and Reactive Extensions
Introductory
JIM WOOLEY
Tuesday, November 19, 4:15 – 5:30pm
As our systems increasingly demand more real-time updates, we need better ways of working with these live streams of information. Traditional pull models fail to provide the real-time responsiveness and scale needs that modern systems expect. Moving to a push model allows us to scale easier and react to new data as it becomes available. SignalR facilitates push notifications over HTTP to a variety of clients. The Reactive Extensions were designed to allow for asynchronous LINQ over push based collections. In this talk, you’ll see how the synergy of these two technologies merge to make otherwise difficult tasks, a push over.
You will learn:
• About the various approaches and trade-offs of how to navigate an AngularJS to Angular migration
• How to bootstrap an application as a hybrid Angular / AngularJS application
• How to migrate parts of the AngularJS application iteratively to Angular in the application, allowing the conversion to take place over time as needed

VSW01 Migrating from AngularJS to Angular + TypeScript
Intermediate
ALLEN CONWAY
Wednesday, November 20, 8:00 – 9:15am
You may have already invested a lot of time and effort into building an AngularJS 1.x app, and haven’t cut your teeth into migrating to Angular and TypeScript. With the Angular Upgrade library, we can bootstrap our Angular app as an Angular + AngularJS Hybrid app, and allow ourselves to migrate over time fully to Angular. The advantage of migrating is once converted to Angular + TypeScript, you will more easily be able to consume newer versions of Angular and TypeScript on regular intervals as well as take advantage of the newest framework and language benefits. In this session we will take a look at an AngularJS application and see the steps involved in migrating our application to the current version of TypeScript using Angular.
You will learn:
• About the various approaches and trade-offs of how to navigate an AngularJS to Angular migration
• How to bootstrap an application as a hybrid Angular / AngularJS application
• How to migrate parts of the AngularJS application iteratively to Angular in the application, allowing the conversion to take place over time as needed

VSW05 TypeScript: Moving Beyond the Basics
Intermediate / Advanced
ALLEN CONWAY
Wednesday, November 20, 9:30 – 10:45am
So you have the basics down in TypeScript fundamentals and have even begun creating applications using this wonderful language. However being stuck with just the basics does not allow you to unlock the full power that TypeScript has to offer. With a dizzying array of new features constantly being released from the TypeScript team, there is always something new to help with your app
development. In this session, we will go beyond the basic language features and dig into new territory like advanced types, decorators, mixins, symbols, generics, iterators, and declaration merging to further your understanding of the wide variety of TypeScript features.

You will learn:
• About advanced TypeScript language features available beyond the basics
• How to leverage the building blocks of TypeScript and build upon them with advanced features to make web client development more powerful
• About additional TypeScript language features like advanced types, decorators, mixins, symbols, generics, iterators, and declaration merging

VSW09 Extending ASP.NET Core Identity to Suit Your Needs
Intermediate

JEREMY SINCLAIR
Wednesday, November 20, 2:00 – 3:15pm
First, ASP.NET used SQLMembership for maintaining local users and roles, then ASP.NET Identity was introduced to enhance this experience. ASP.NET Core Identity takes this to the next level thanks to the modularity that ASP.NET Core provides. This session will walk you through implementing this Identity manually. You’ll learn how to override and scaffold Identity pages. You’ll learn how to implement multi-factor authentication easily. You’ll see how to wrap ASP.NET Core Identity around an existing and legacy membership database.

You will learn:
• How to create an identity provider with ASP.NET Core Identity
• How to add custom functionality to an identity database.
• How to reuse existing databases for use with ASP.NET Core Identity

VSW13 Introduction to Webpack
Introductory / Intermediate
CHRIS KLU"G
Wednesday, November 20, 4:00 – 5:15pm
As our web development code moves further and further towards the front-end, with the browser becoming a host for running complex programs, and not just show information, the need for managing our front-end resources becomes bigger...and harder. There are several ways to do this, but currently it seems as though webpack is the way that people are gravitating towards.

Unfortunately, getting started with webpack offers a bit of a hurdle to get over. Webpack configurations can look fairly complicated, and getting started can seem like a daunting task! But with large JavaScript frameworks like Angular and Aurelia buying into it, we developers do not have much choice. We have to understand it!

In this session, you will get a basic introduction to how webpack works, the concepts behind it, and how to get started playing around with it. The topic is too big to make you an expert in an hour, but hopefully you will walk out understanding concepts well enough to both start configuring your own bundles, as well as be able to understand most of the stuff you see in the more complicated bundle configurations you will run across.

You will learn:
• What webpack is
• What webpack can do
• How to configure webpack to package front-end resources

VSH05 - Improving Web Performance
Intermediate

ROBERT BOEDIGHEIMER
Thursday, November 21, 9:30 – 10:45am
This session starts with a traditional web page and shows step by step how to improve its performance and user experience! Discover performance techniques that everyone should use, then learn techniques that differ when targeting HTTP 1.1 vs. HTTP/2. Review tools that can help identify and validate sound performance best practices. Explore how to defer resource requests with lazing loading, asynchronous loading, and postponing 3rd party tag requests. Many other performance boosting techniques will also be discussed, which can reduce response time while also boosting the scalability and reliability of your site.

Learn the techniques that can have the largest impact on web performance with the least amount of work.

You will learn:
• The proper techniques to always use, use only for HTTP 1.1, and use only for HTTP/2
• Discover tools to check websites for adherence to performance best practices
• See how to decrease the size of an entire web page to less than 1 image on original site
VISUAL STUDIO LIVE!
CONFERENCE CO-CHAIRS
AND ADVISORY BOARD

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Developer Educator

Andreas Erben
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Allen Conway
Practice Lead, Magenic

Adam Furmanek
Software Developer, Amazon
VISUAL STUDIO LIVE! CONFERENCE SPEAKERS (continued)

Esteban Garcia  
SVP Azure and DevOps, New Signature

Mickey Gousset  
DevOps Architect, Microsoft

Paul Hacker  
DevOps Architect, Microsoft

Billy Hollis  
XAML slinger

Philip Japikse  
Developer, Coach, Author, Teacher

Chris Klug  
Senior Software Developer, Tretton37

Nick Landry  
Senior Software Engineer, Mixed Reality, Microsoft

Debbie Levitt  
CEO, Ptype UX Agency

Rockford Lhotka  
CTO, Magenic  
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Leonard Lobel  
CTO, Sleek Technologies, Inc.

Ted Neward  
Principal, Neward & Associates, LLC.

Oren Novotny  
Chief Architect, DevOps & Modern Software, Insight

Harry Pierson  
Chief Architect, NEO Global Development

Brian Randell  
Partner, MCW Technologies  
Visual Studio Live! Conference Co-Chair

Jeremy Sinclair  
Web Engineering Specialist III, Orrick

Matt Soucoup  
Senior Cloud Developer Advocate, Microsoft

Alex Thissen  
Architect, Lead Developer, and Mentor

Doyle M. Turner  
Digital Tool Maker, Security Advocate, Microsoft

René van Osnabrugge  
DevOps Consultant, Xpirit

Jim Wooley  
Solution Architect, Slalom Consulting
# AGENDA-AT-A-GLANCE

## SQL Server Live! Full Day Hands-On Lab: Sunday, November 17, 2019

<table>
<thead>
<tr>
<th>START TIME</th>
<th>END TIME</th>
<th>Event Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:15 AM</td>
<td>9:00 AM</td>
<td>Registration • Coffee and Morning Pastries</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>9:30 AM</td>
<td><strong>SQS01</strong> Hands-On Lab: The A to Z of Cloud-based SQL Server Solutions - Allan Hirt</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>7:00 PM</td>
<td>Pre-Conference Registration - Royal Pacific Resort Conference Center</td>
</tr>
</tbody>
</table>

## SQL Server Live! Pre-Conference Workshops: Monday, November 18, 2019

<table>
<thead>
<tr>
<th>START TIME</th>
<th>END TIME</th>
<th>Event Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 AM</td>
<td>8:50 AM</td>
<td><strong>SQM01</strong> Workshop: Advanced Data Protection - Security and Privacy in SQL Server - Thomas LaRock &amp; Karen Lopez</td>
</tr>
<tr>
<td>6:30 PM</td>
<td>8:00 PM</td>
<td>Dine-A-Round Dinner @ Universal CityWalk - 6:30pm - Meet at Conference Registration Desk to walk over with the group</td>
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</table>

## SQL Server Live! Day 1: Tuesday, November 19, 2019

<table>
<thead>
<tr>
<th>START TIME</th>
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<th>Event Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:15 AM</td>
<td>10:30 AM</td>
<td><strong>SQT01</strong> AWS Versus Azure: Data Services Comparison - Thomas LaRock</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>12:00 PM</td>
<td><strong>SQT02</strong> Availability Fundamentals for SQL Server - Allan Hirt</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>12:45 PM</td>
<td>Lunch • Visit the EXPO</td>
</tr>
<tr>
<td>12:45 PM</td>
<td>1:30 PM</td>
<td>Dessert Break • Visit the EXPO</td>
</tr>
<tr>
<td>1:30 PM</td>
<td>1:50 PM</td>
<td><strong>SQT04</strong> Fast Focus: Automation for the DBA: Embrace Your Inner Sloth - William Durkin</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>2:20 PM</td>
<td><strong>SQT06</strong> Fast Focus: From Adaptive to Intelligent: Query Processing in SQL 2019 - Hugo Kornelis</td>
</tr>
<tr>
<td>2:20 PM</td>
<td>2:45 PM</td>
<td>Networking Break • Visit the EXPO - Pacifica 7</td>
</tr>
</tbody>
</table>

Speakers and sessions subject to change.
### AGENDA-AT-A-GLANCE (continued)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:45 PM</td>
<td><strong>SQT08</strong> SQL Server 2019 Deep Dive - Scott Klein</td>
</tr>
<tr>
<td>4:00 PM</td>
<td><strong>SQT09</strong> SQL Server In-Memory Database Objects - Denny Cherry</td>
</tr>
<tr>
<td>4:15 PM</td>
<td><strong>SQT10</strong> What’s New in SQL Server 2019 for Analytics - Thomas LeBlanc</td>
</tr>
<tr>
<td>5:30 PM</td>
<td><strong>SQT11</strong> Microsoft’s New Database Experimentation Assistant (DEA) - Mindy Curnutt</td>
</tr>
<tr>
<td>7:30 PM</td>
<td><strong>SQT12</strong> Common Troubleshooting Techniques for Availability Groups and Failover Cluster Instances - Allan Hirt</td>
</tr>
<tr>
<td>7:30 PM</td>
<td><strong>SQT13</strong> Power BI implementation guidance: from Pro to Premium and Desktop to Embedded - Thomas LeBlanc</td>
</tr>
</tbody>
</table>

#### SQL Server Live! Day 1: Tuesday, November 19, 2019 (continued)

<table>
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<th>Time</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 AM</td>
<td>Registration • Coffee and Morning Pastries</td>
</tr>
<tr>
<td>8:00 AM</td>
<td><strong>SQW01</strong> An Introduction to Spatial Data in SQL Server - Mindy Curnutt</td>
</tr>
<tr>
<td>8:15 AM</td>
<td><strong>SQW02</strong> It’s Broken, Now What?! Practical Problem Solving - William Durkin</td>
</tr>
<tr>
<td>9:30 AM</td>
<td><strong>SQW03</strong> Getting Started with Apache Spark - Kevin Feasel</td>
</tr>
<tr>
<td>10:45 AM</td>
<td>Networking Break • Visit the EXPO - Pacifica 7</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>LIVE 360 KEYNOTE: To Be Announced</td>
</tr>
<tr>
<td>12:30 PM</td>
<td>Birds-of-a-Feather Lunch</td>
</tr>
<tr>
<td>12:30 AM</td>
<td>Dessert Break • Visit the EXPO</td>
</tr>
<tr>
<td>2:00 PM</td>
<td><strong>SQW07</strong> SQL Data Discovery and Classification - Karen Lopez</td>
</tr>
<tr>
<td>3:15 PM</td>
<td><strong>SQW08</strong> Things You Should Never Do In Microsoft SQL Server - Denny Cherry</td>
</tr>
<tr>
<td>4:00 PM</td>
<td><strong>SQW09</strong> Deep Dive into Power BI Administration and Security Internals - Ginger Grant</td>
</tr>
<tr>
<td>4:15 PM</td>
<td>Networking Break • Visit the EXPO • Expo Raffle @ 3:30 p.m. - Pacifica 7</td>
</tr>
<tr>
<td>5:30 PM</td>
<td><strong>SQW10</strong> Migrating SSIS Workloads to Azure Data Factory - Joshua Luedeman</td>
</tr>
<tr>
<td>5:15 PM</td>
<td><strong>SQW11</strong> Improve Your Database Performance in Seven Simple Steps - Hugo Kornelis</td>
</tr>
<tr>
<td>7:30 PM</td>
<td><strong>SQW12</strong> Performance Tuning Power BI - Ginger Grant</td>
</tr>
</tbody>
</table>

#### SQL Server Live! Day 2: Wednesday, November 20, 2019

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>7:30 AM</td>
<td>Registration • Coffee and Morning Pastries</td>
</tr>
<tr>
<td>8:00 AM</td>
<td><strong>SQW13</strong> Microsoft’s New Database Experimentation Assistant (DEA) - Mindy Curnutt</td>
</tr>
<tr>
<td>8:15 AM</td>
<td><strong>SQW14</strong> Common Troubleshooting Techniques for Availability Groups and Failover Cluster Instances - Allan Hirt</td>
</tr>
<tr>
<td>9:30 AM</td>
<td><strong>SQW15</strong> Power BI implementation guidance: from Pro to Premium and Desktop to Embedded - Thomas LeBlanc</td>
</tr>
</tbody>
</table>

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Speakers and sessions subject to change
**AGENDA-AT-A-GLANCE (continued)**

<table>
<thead>
<tr>
<th>Start Time</th>
<th>End Time</th>
<th>Session Title</th>
<th>Speaker(s)</th>
<th>Location</th>
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<tbody>
<tr>
<td>7:30 AM</td>
<td>8:00 AM</td>
<td>Registration • Coffee and Morning Pastries</td>
<td></td>
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</tr>
<tr>
<td>8:00 AM</td>
<td>9:15 AM</td>
<td><strong>SQH01</strong> Deep Dive into Adaptive Query Processing - Hugo Kornelis</td>
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<tr>
<td>9:30 AM</td>
<td>10:45 AM</td>
<td><strong>SQH04</strong> Data Security and Privacy Techniques for Modern Databases - Thomas LaRock</td>
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<tr>
<td>11:00 AM</td>
<td>12:00 PM</td>
<td><strong>SQH07</strong> Machine Learning with R in Azure SQL Database - Bradley Ball</td>
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<td>12:00 PM</td>
<td>1:00 PM</td>
<td>Lunch - Oceana Ballroom</td>
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<tr>
<td>1:00 PM</td>
<td>2:15 PM</td>
<td><strong>SQH08</strong> Building a Better Data Solution: Microsoft SQL Server and Azure Data Services - Joseph D'Antoni</td>
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<tr>
<td>2:30 PM</td>
<td>3:45 PM</td>
<td><strong>SQH10</strong> TimescaleDB on Azure Database for PostgreSQL - Bradley Ball</td>
<td></td>
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<tr>
<td>4:00 PM</td>
<td>5:00 PM</td>
<td><strong>SQH11</strong> Containers, Pods, and Databases - Learning About the Future of Infrastructure - Joseph D'Antoni</td>
<td></td>
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</tr>
<tr>
<td>8:00 AM</td>
<td>9:00 AM</td>
<td>SQL Server Live! Day 3: Thursday, November 21, 2019</td>
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<tr>
<td>9:00 AM</td>
<td>10:45 AM</td>
<td>SQL Server Live! Panel Discussion: SQL Server is Dead, Long Live SQL Server! Thomas LaRock (moderator), Karen Lopez, Bradley Ball, Jen Stirrup, Joseph D'Antoni</td>
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<td>Lunch - Oceana Ballroom</td>
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<tr>
<td>1:00 PM</td>
<td>2:15 PM</td>
<td><strong>SQH09</strong> Data Preparation: A framework with Power BI, Power Query, and Power BI Dataflows - Jen Stirrup</td>
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<tr>
<td>2:30 PM</td>
<td>3:45 PM</td>
<td><strong>SQH12</strong> Getting Started with Power BI Report Server - Joshua Luedeman</td>
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<tr>
<td>3:45 PM</td>
<td>5:00 PM</td>
<td>Next? Live! 360 Networking Event - Bradley Ball, Andrew Brust, Ben Curry, Peter Daalmans, Joseph D'Antoni, Marcel de Vries, Billy Hollis, Dave Kawula, Raj Krishnan, Thomas Sami Laiho, LaRock, Vishwas Lele, Rockford Lhotka, Karen Lopez, Matthew McDermott, Agnes Molnar, Brian Randell, Panu Saukko, Jen Stirrup, &amp; Alex Thissen</td>
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</tr>
<tr>
<td>7:30 AM</td>
<td>8:00 AM</td>
<td>SQL Server Live! Post-Conference Workshops: Friday, November 22, 2019</td>
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<tr>
<td>8:00 AM</td>
<td>9:00 AM</td>
<td>SQL Server Live! Post-Conference Workshops: Friday, November 22, 2019</td>
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<tr>
<td>9:00 AM</td>
<td>10:45 AM</td>
<td>SQL F01 Workshop: Azure SQL Data Warehouse: A Full Day of the Transformative New NDA Features - Bradley Ball, Joshua Luedeman, &amp; Gareth Swanepoel</td>
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<tr>
<td>10:45 AM</td>
<td>12:00 PM</td>
<td>SQL F02 Workshop: SQL Server High Performance Development - Joseph D'Antoni</td>
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<tr>
<td>12:00 PM</td>
<td>1:00 PM</td>
<td>Lunch - Oceana Ballroom</td>
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</tbody>
</table>

Speakers and sessions subject to change.
SQL Server Live! Session Descriptions by Track

**FULL DAY HANDS-ON LABS**
These instructor-led, pre-conference Hands-On Labs offer attendees intensive in-depth training before the conference officially begins. Choose from eight extended 8-hour labs and take advantage of in-person instruction as well as collaboration with peers.

Attendance for each Hands-On Lab is limited, so be sure to sign up early for these special bring your own laptop pre-conference HOLs.

SQS01 Hands-On Lab: The A to Z of Cloud-based SQL Server Solutions
Intermediate
ALLAN HIRT
Sunday, November 17, 9:00am – 6:00pm
Microsoft Azure, Amazon AWS, and Google Cloud Platform are either already part of your daily lives or will be soon. Deploying to the public cloud means different things to different people — you are going to use virtual machines (VMs) as part of Infrastructure as a Service (IaaS)? Use the native cloud-based solutions for Platform as a Service (PaaS) where you may just need a database or an instance of SQL Server? Still keep some on premises but extend to the cloud with hybrid solutions? Where do containers fit into the picture? For some solutions, is it a good idea to deploy to the cloud at all?

SQL Server and its databases still need to be made available, reliable, and highly performing in the cloud. This full day session will cover how to plan availability for SQL Server solutions that are hybrid, IaaS, or PaaS
• How to ensure that you get the performance required from your SQL Server solutions
• Best practices, tips, and tricks

As part of the day, you will get hands on experience in addition to the instructional content and demos. You will need to bring your own laptop to do the lab. Specks on what you will need will be sent as it gets closer to the date.

No matter where you are on your journey to the cloud, this day will modernize your SQL Server skills to be able to deploy successfully regardless of your public cloud provider of choice.

You will learn:
• Understand the considerations for when to use – and when not to use – the public cloud for SQL Server
• Understand how to make SQL Server available, reliable, and highly performing in the public cloud
• Understand best practices, tips, and tricks for deploying to the cloud

**WORKSHOPS**
Choose from a wide range of content and topics by expert presenters with Live! 360 Orlando’s Pre- and Post-Conference full-day workshops.

SQM01 Workshop: Advanced Data Protection - Security and Privacy in SQL Server
Intermediate
THOMAS LAROCK & KAREN LOPEZ
Monday, November 18, 8:30am – 5:30pm
In this advanced workshop, we cover data security and privacy protection for SQL Server and Azure SQL Database. With demonstrations and several exercises, this workshop uses group labs to cover database and data protection techniques, including threat analysis and remediation.

You will learn:
• How to identify sensitive data
• How to detect someone is accessing sensitive data
• How to protect sensitive data

SQM02 Workshop: Developer Dive into SQL Server
Intermediate
LEONARD LOBEL
Monday, November 18, 8:30am – 5:30pm
This full-day workshop will get you up to speed on powerful features for developers in SQL Server. Lenni will pull no punches as he rips through the most important SQL Server programmability points in this intensive demo-packed tour.

We’ll kick things off with the most important features added to the relational engine, including broad multi-platform support across Windows, Linux, and Docker. Learn how SQL Server’s ability to run inside Docker containers on both Windows and Mac has revolutionized the way developers work with Microsoft’s venerable database engine. Then you’ll explore all the latest T-SQL enhancements, including more convenient DDL statements, new string split, join, and aggregate functions, partition truncation, and other language improvements added in SQL Server 2017, plus many other T-SQL capabilities, such as windowing (OVER clause), running and sliding aggregates, the THROW statement, server-side paging, the SEQUENCE object, metadata discovery techniques, and more new functions.

Next we’ll explore the latest security features of the relational engine, such as dynamic data masking, row-level security, and always encrypted. We’ll also preview SQL Server 2019’s support for secure enclaves to enable rich query of encrypted data in use. Other innovative capabilities include “stretch” database (allow select tables in an on-premises database to be transparently relocated in Azure SQL Database), temporal data (enable “time travel” to access data as it existed at any point in time), and integrated JSON support. We’ll wrap up with the graph support recently baked into the relational
SQL Server Live! Session Descriptions by Track (continued)

**SQF01** Workshop: Azure SQL Data Warehouse: A Full Day of the Transformative New NDA Features  
*Introductory / Intermediate*  
**Bradley Ball, Joshua Luedeman, & Gareth Swanepoel**  
Friday, November 22, 8:00am – 5:00pm  
Join members of the Microsoft Azure SQL DW & Azure FastTrack Engineering PG as we review some amazing new NDA features have been released that drastically change and simplify the recommended best practices and architectural guidance for deploying and using Azure SQL Data Warehouse, aka SQL DW. We will review the concept of multi-node parallel processing, MPP, systems demonstrating concepts to achieve the best performance possible. No longer will you require a data mart or Azure Analysis Services Tabular model for reporting! We will walk through a decision matrix to determine which MPP big data system is right for you based on your needs and workloads. We will review how data science teams can access data utilizing notebooks, R, Python, or Scala. We will review performance benchmarks comparing the performance of SQL DW against Google Big Query, AWS Redshift, and Snowflake.  
You will learn:  
- How to boost your productivity by running SQL Server inside Docker containers  
- The latest T-SQL language enhancements  
- Discover the newest SQL Server developer features (DDM, RLS, Always Encrypted, Stretch DB, Temporal, JSON, graph)

**SQF02** Workshop: SQL Server High Performance Development  
*Introductory / Intermediate*  
**Joseph D'Antoni**  
Friday, November 22, 8:00am – 5:00pm  
Are you developing a new database application and are concerned about performance? In this all-day session, you will learn about best practices for SQL Server development, tips and techniques for high performance and high concurrency applications. You will also learn about patterns and anti-patterns in T-SQL development, and how to analyze and troubleshoot poor performing code.  
You will learn:  
- How to build better applications in SQL Server and Azure SQL Database  
- How to troubleshoot performance in your SQL Server environment  
- Understand holistic performance tuning in a cloud environment

**Business Intelligence**  
Organizations are increasingly turning to SQL Server and related technologies to make better business decisions. SQL Server Live! presents a full track to help you master the complex world of BI to help your organization get there. This track will cover Power BI, DataOps, PolyBase, and SQL Data Warehouse. It all comes back to the relational engine as well, including coverage of optimal configuration of SQL Server and new analytics features in SQL Server 2019.

**SQF03** Power BI: What Have You Done For Me Lately  
*Intermediate*  
**Andrew Brust**  
Tuesday, November 19, 9:15 – 10:30am  
Power BI has been a runaway success in adoption and mindshare,rocketing Microsoft past many of its business intelligence competitors. You may already know Power BI creates great looking visualizations, or that it runs on Windows, iOS, Android, and in the cloud. But do you know how to use it? And if you do, is your knowledge current with all the new features of this product that’s updated on a monthly basis?  
Come to this session for a combination quick intro to Power BI (including its technology underpinnings, the costs around it and, of course, how to use it) and primer on several newer features, including data flows, AI features, composite models and Python integration. We’ll even cover features released after this abstract is published.  
You will learn:  
- Power BI Basics: Reports and dashboards on desktop, cloud and mobile  
- New and recent features like data flows and AI integration  
- Using Power BI for Big Data analytics with aggregation tables and composite models  
- Scripts and visualizations with Python and R

**SQF10** What’s New in SQL Server 2019 for Analytics  
*Intermediate*  
**Thomas LeBlanc**  
Tuesday, November 19, 2:45 – 4:00pm  
SQL Server 2019 has many new features for everybody, but for analytics, this session gets more specific. To increase performance, the column store index has some enhanced Batch mode processing and re-indexing improvements. Analysis Services (SSAS) has been update for the long awaited Calculation Groups which is similar to Scoping in Multidimensional. DAX updates include
Single Calculation (filter context) and Sideways recursion. Performance improvements with window aggregate functions for those not using SSAS. The Power BI Report Server has been improved along with more Mobile display options. The session will end with some of the updates for Polybase and data virtualization.

**SQW03 Getting Started with Apache Spark**  
*Introductory / Intermediate*

**KEVIN FEASEL**

**Wednesday, November 20, 8:00 – 9:15am**

As companies work to gain insight from ever-increasing amounts of data, data platform practitioners need tools which can scale along with the data. Early big data solutions in the Hadoop ecosystem assumed that data sizes overwhelmed available memory, emphasizing heavy disk usage to coordinate work between nodes. As the cost of memory decreases and the amount of memory available per server increases, we see a shift in the makeup of big data systems, emphasizing heavy memory usage instead of disk. Apache Spark, which focuses on memory-intensive operations, has taken advantage of this hardware shift to become the dominant solution for problems requiring distributed data. In this talk, we will take an introductory look at Apache Spark. We will review where it fits in the Hadoop ecosystem, cover how to get started and some of the basic functional programming concepts needed to understand Spark, and see examples of how we can use Spark to solve issues like calculating PageRank and analyzing large data sets.

**You will learn:**
- How to use Spark with Scala as well as Spark SQL
- Review some of the differences between Spark and a relational technology like SQL Server
- About Apache Spark
- Performance improvements with window aggregate functions for those not using SSAS

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**SQW06 - PolyBase in Action**  
*Intermediate*

**KEVIN FEASEL**

**Wednesday, November 20, 9:30 – 10:45am**

PolyBase is Microsoft’s data virtualization technology, allowing you to integrate SQL Server with external systems such as Hadoop and Azure Blob Storage. As of SQL Server 2019, PolyBase also allows you to connect to diverse systems such as Oracle, MongoDB, Cosmos DB, Teradata, Apache Spark, and even other SQL Server instances. In this talk, we will walk through the mechanics of PolyBase, showing how we can write T-SQL queries to access data from heterogeneous sources. We will investigate the Dynamic Management Views (DMVs) and other resources needed to tease out what the PolyBase engine is doing behind the scenes and where to go when things break down. Finally, we will look at several interesting use cases for PolyBase in the modern data environment.

**You will learn:**
- Methods and components in Azure which impact Power BI Security
- How Power BI integrates Office 365 administration and the methods which can provide tighter control of data access and licenses
- How to determine what kinds of Office 365 rights should be assigned to different roles in Power BI
SQW12 - Performance Tuning Power BI
Intermediate
GINGER GRANT
Wednesday, November 20, 4:00 – 5:15pm
When users complain that a Power BI report is slow there are a number of techniques which can be used to determine what is the cause. The demos will walk through how to use a number of different tools to troubleshoot the root cause of the slowness problems. The next step of course is to learn how to resolve different classifications of problems to provide a number of usable solutions gathered from in depth field experience.

You will learn:
• How to use Windows internals and third-party tools to uncover where performance problems are occurring
• Develop methods for resolving problems related to visualizations in Power BI
• An introduction to Power BI features which can improve the data model performance by increasing data compression, providing improved aggregation calculations, and some common DAX performance solutions

SQH09  Data Preparation: A framework with Power BI, Power Query, and Power BI Dataflows
Intermediate
JEN STIRRUP
Thursday, November 21, 1:00 – 2:15pm
In this session, we will look at the importance of preparing and cleaning data, and different approaches for measuring data quality, from the business intelligence perspective. We will walk through a framework for measuring and implementing data cleanliness, and exploring its impact using Power BI. Along the way, we’ll look at Power Query and its cloud implementation, Power BI dataflows.

You will learn:
• About Power BI data prep essentials.
• About data preparation for beginners
• A framework for cleaning data

SQH12 Getting Started with Power BI Report Server
Introductory
JOSHUA LUEDEMAN
Thursday, November 21, 2:30 – 3:45pm
For years, Power BI and SQL Server Reporting Services were distinct services. PowerBI lived in the cloud, and SSRS was the Earthed solution. With Power BI Report Server, organizations can run a hybrid reporting environment that gives them the benefit of Reporting Services and PowerBI in one portal, one solution.

In this presentation, we’ll cover the basics of Power BI Report Server, including how to deploy to Azure and get started before you leave the session.

You will learn:
• Benefits of PowerBI Report Server over PowerBI.com
• Differentiators between PowerBI.com and PowerBI Report Server
• How to Deploy PBiRS to Azure

SQL SERVER ADMINISTRATION & MAINTENANCE
Looking to brush up on SQL Server administration fundamentals? Are you a “reluctant DBA” charged with supporting SQL Server—and given no training? SQL Server Live! is here to help, with a complete selection of core maintenance topics: Availability Groups, disaster recovery, encryption, data security and privacy, index maintenance, SQL Server upgrades, Azure SQL Database, and more.

SQT02  Availability Fundamentals for SQL Server
Introductory
ALLAN HIRT
Tuesday, November 19, 9:15 – 10:30am
How to make SQL Server instances and databases available often vexes many regardless of role and how long the person has been working with SQL Server. This session will demystify what it really takes to keep SQL Server up and running to give you a solid foundation of SQL Server availability. You will learn about the built in features that SQL Server provides for availability such as Always On Availability Groups and Failover Cluster Instances, how applications need to be coded to account
for availability, and much more. If you’re responsible for SQL Server, this session is one you cannot miss.

You will learn:
- Understand availability fundamentals
- Understand what features are in SQL Server for availability, how they work, and where they should be used
- Understand that backups are the fundamental building block of availability

**SQ04  Fast Focus: Automation for the DBA: Embrace Your Inner Sloth**
*Introductory*

**WILLIAM DURKIN**  
Tuesday, November 19, 1:30 – 1:50pm

DBAs and sysadmins never have time for the fun stuff. We are always restoring a DB for a dev or setting up a new instance for that new BI project. What if I told you that you can make all that time consuming busy-work disappear?

In this session we will learn to embrace the power of automation to allow us to sit back and relax… or rather focus on the real work of designing better, faster systems instead of fighting for short time slots when we can do actual work.

Along the way we will see that we can benefit from the wide world of automation expertise already available to us and avoid re-inventing the wheel, again!

You will learn:
- PowerShell for DBAs = epic efficiency gains
- Open source + Microsoft = friends now! Use OSS for MS enterprise environments
- DevOps + DBA = DataOps. The future of DBAs is (near) zero Admin work and all about Architecture and Automation

**SQ09  SQL Server In-Memory Database Objects**
*Intermediate*

**DENNY CHERRY**  
Tuesday, November 19, 2:45 – 4:00pm

SQL Server 2017 is continuing to expand on the in-memory database features that were first introduced in SQL Server 2012 and have been enhanced in every version of SQL Server since.

During this session, we will explore the in-memory database tables which are known as the In-Memory OLTP features as well as reviewing the ColumnStore features.

During this presentation, we will also review the scope of the feature as well as reviewing the use cases and best practices for using in-memory database tables and when the in-memory database tables shouldn’t be used.

You will learn:
- In Memory OLTP
- ColumnStore
- Clustered ColumnStore

**SQ02  Using Modular Scripts to Perform SQL Compliance Audits in Seconds**
*Introductory / Intermediate*

**CHIRS BELL**  
Thursday, November 21, 8:00 – 9:15am

Security audits such as PCI, STIG, or HIPAA, are important and can be complicated. Depending on the requirements it can take considerable time to gather the information needed.

In this session, we will go over some scripts that are used for compliance audits that make it easy to collect the information required. Even when there are multiple SQL Servers, these scripts and processes can quickly and easily identify where to focus efforts to ensure compliance. Through heavy demonstration and discussion, you will leave with a better equipped to understand and obtain compliance within your SQL Server environment.

You will learn:
- DOD/NIST recommended practices for SQL Server
- Review the use of a modular script process to easily customize data collection to your needs and/or requirements
- Be able to quickly check the security state of your SQL Servers, no matter how many you have

**SQ05  Building Your First SQL Server Container Lab in Docker**
*Introductory*

**CHIRS BELL**  
Thursday, November 21, 9:30 – 10:45am

A few years back virtualization changed the way to work with SQL and infrastructure. Now the next chapter is opening and it’s all about containers. Containers can make the DBA’s job of creating and deploying servers much easier freeing them up for other tasks such as performance tuning and security.

In this session, we will go over the concepts of containers, their general capabilities, and then build, connect and configure a SQL 2017 Dev edition server in a Docker for Windows container for use as a private lab.

You will learn:
- Understand what containers are and how they can be used by you or your company
- Build a container with SQL Server for practice purposes
- Configure some features of your container usually not covered when it comes to a SQL Lab

**SQ08  Building a Better Data Solution: Microsoft SQL Server and Azure Data Services**
*Introductory / Intermediate*

**JOSEPH D’ANTONI**  
Thursday, November 21, 1:00 – 2:15pm

Moving to the cloud in a big way? In this case study, learn about building a complex end-to-end infrastructure
SQL Server Live! Session Descriptions by Track (continued)

**SQH11 Containers, Pods, and Databases - Learning About the Future of Infrastructure**

*Introductory*

**JOSEPH D’ANTONI**

**Thursday, November 21, 2:30 – 3:45pm**

Containers have quietly been taking over the world of infrastructure, especially amongst developers and CI/CD practitioners. However, in the database space, container adoption has been lower. SQL Server 2017 introduced the concept of deploying databases into Docker containers. In this session, you will learn the fundamentals of creating containers, learning about Kubernetes for management, and how to further your learning in this new and emerging space.

*You will learn:*
- About containers work with databases
- About how SQL Server works with Kubernetes
- About the future of SQL Server

**SQL Server Features & Components**

*With sessions on Adaptive Query Processing, Database Experimentation Assistant, security and privacy techniques for modern databases, spatial data types as well as data discovery and classification we’ve got SQL Server features and components covered. Learn what’s new, along with the do’s and don’t’s, from our experienced experts.*

**SQT06 Fast Focus: From Adaptive to Intelligent: Query Processing in SQL 2019**

*Intermediate*

**HUGO KORNE LIS**

**Tuesday, November 19, 2:00 – 2:20pm**

As announced in September 2018, SQL Server 2019 expands the “adaptive query processing” features of SQL 2017 and relabels them as “intelligent query processing”. This name now covers many features, such as batch mode on rowstore, memory grant feedback, interleaved execution, adaptive joins, deferred compilation, and approximate query processing.

In this high-paced session, we will look at all these features and cover some use cases where they might help - or hurt! - you.

*You will learn:*
- Understand the limitations and problems in the classic SQL Server query optimization / execution model
- Understand the benefits of the features released in SQL Server 2017 as “Adaptive Query Processing”
- Understand the benefits of the features released in SQL Server 2019 as “Intelligent Query Processing”

**SQT08 SQL Server 2019 Deep Dive**

*Intermediate*

**SCOTT KLEIN**

**Tuesday, November 19, 2:45 – 4:00pm**

SQL Server 2019 brings a ton of innovation and features for supporting advanced analytics and all types of data workloads. With SQL Server 2019, big data is built-in, and this demo-heavy session will showcase the great capabilities of SQL Server 2019 including data integration and insights, performance, and security to allow you to work with and manage big data environments by integrating deeply with Hadoop HDFS and Spark.

*You will learn:*
- How SQL Server 2019 makes it easy to work with and manage big data environments, as well as providing...
transformation insights over both structured and unstructured data.
- How SQL Server provides the deep intelligence across all types of data by leveraging the integration of SQL Server and Spark as well as the deep analytics capabilities
- About the new performance and security features, allowing data protection at rest and in use, while taking advantage of improved scalability and performance across all data sources, including data lakes and data warehouses

SQW01 An Introduction to Spatial Data in SQL Server
Introductory
MINDY CURNUTT
Wednesday, November 20, 8:00 – 9:15am
Over a decade ago Microsoft added the capability to store and work with geometry and geography data types. (Wait...what’s this you say?!?) Well, yes—it’s been there for quite some time now. You can actually store spatial data in SQL tables (in the form of points, lines and polygons). There are also many powerful, built-in functions that allow the manipulation and calculation of results around this data. This is a powerful, but sadly underused feature of the product given that IoT tends to be so focused around the location of things.

Come to this session to learn about:
- The two elusive data types (geography and geometry)
- T-SQL Spatial routines and functions
- How to load spatial data
- Where you can get lots and lots of free spatial data to supplement your existing systems
- See an example of real-world Spatial data in use (aggregating truck positions for tax calcs)
- Write a SQL query from a bitmap picture (pure amusement)

You will learn:
- About two special data types, geography and geometry
- Understand the different spatial routines and functions, what they do, what type of result they return, and how you would use each
- Watch a real world business case where using spatial data made things so much easier

SQW10 Migrating SSIS Workloads to Azure Data Factory
Intermediate
JOSHUA LUEDEMAN
Wednesday, November 20, 4:00 – 5:15pm
SQL Server Integration Services (SSIS) has been the extract/transform/load (ETL) tool inside SQL Server since 2005. In today’s hybrid landscape Microsoft Azure has emerged as a necessity, which results in the need to update existing ETL logic.

In this demo-laden session we will use Data Flows to port existing ETL logic to a native Azure Data Factory solution, helping to make the migration from Earthed to Cloud painless. We will discuss architecture as well, including ways to use SSIS in Azure as an alternative solution.

You will learn:
- How to use Mapping Data Flows as an alternative to SSIS
- Different ways to run SSIS in Azure
- “Lift and Shift” SSIS Packages to Azure Data Factory

SQH01 Deep Dive into Adaptive Query Processing
Intermediate / Advanced
HUGO KORNELIS
Thursday, November 21, 8:00 – 9:15am
Until SQL Server 2016, the Query Optimizer and the Execution Engine were strictly separated. The Query Optimizer produces an execution plan that, based on statistics and estimates, should be fast. That execution plan is then faithfully executed by the Execution Engine, even if reality turns out to be different from expectations.

But this is changing! SQL Server 2017 introduced three new features that allow execution plans to adapt to reality: Batch Mode Memory Grant Feedback, Batch Mode Adaptive Join, and Interleaved Execution. And even more of these adaptive features are already available as preview in Azure SQL Database.
In this session we will look at these new features. We will skip the shiny marketing slides, and instead look at how all of this ACTUALLY works. If you are happy to spend your time knee-deep in execution plan internals, come to this session!

You will learn:
• Understand how batch mode adaptive join works, and what its pros and cons are
• Understand how batch mode memory grant feedback works, and what its pros and cons are
• Understand how interleaved execution works, and what its pros and cons are

SQH04 Data Security and Privacy Techniques for Modern Databases
Intermediate
THOMAS LAROCK
Thursday, November 21, 9:30 – 10:45am
Data security and privacy is big challenge. With so much data flowing in and out of servers it’s easy to understand how data breaches take months to discover. For decades our industry placed a value on performance at the cost of security. Those days are over. Data security and privacy are now at the forefront of any project.

In this session we will examine available tools and methods to protect data at rest, in use, and in motion.

Topics for discussion will include:
• Data discovery and classification
• Data encryption
• Data masking
• SQL injection
• Audit and threat detection
• Penetration testing

Attend this session and leave with confidence knowing you have the ability to lower the risk of suffering an expensive data breach. Don’t wait until tomorrow, start securing your data today.

You will learn:
• How to identify sensitive data
• How to detect someone is accessing sensitive data
• How to protect sensitive data

SQH07 Machine Learning with R in Azure SQL Database
Introductory / Intermediate
BRADLEY BALL
Thursday, November 21, 1:00 – 2:15pm
Using the power of R language to deliver advanced analytics and machine learning has been added to Azure SQL Database. While this has been in SQL Server on premise since SQL 2016, this is a new feature in a fully managed Paas offering. In this session we will cover some basic items, how do we utilize R via T-SQL scripts? How do we list and install R packages? If we install it how do we uninstall it? Once we know the basics, we will run through some R scripts. We will then review how to operationalize these scripts. No need to have a separate service to invoke these models, we can operationalize these scripts within stored procedures so they can be called by any web service!

You will learn:
• Understand the syntax and how to invoke R scripts in Azure SQL Database using Machine Learning services
• Understand how to validate the version of R supported, install and uninstall R packages, and how to store models
• Understand how to invoke models in stored procedures, against existing data sets, and single set transactions

SQH10 TimescaleDB on Azure Database for PostgreSQL
Intermediate
BRADLEY BALL
Thursday, November 21, 2:30 – 3:45pm
Microsoft has entered into a partnership with TimescaleDB on Azure Database for PostgreSQL. Timescale is an open-source time-series database powered by PostgreSQL optimized for fast ingest and complex queries. For people looking to build IoT time-series workloads TimescaleDB is a common choice. While it supports traditional SQL syntax, it scales in ways previously reserved for non-acid compliant systems. Some of the features include Transparent time and space partitioning, high data write rates, right-sized chunks, and parallelized operations. We will review how to data model, build the architecture to support ingestion, and then dive into a demo of the New York Taxi data set and figure out Seasonal ARIMA, Autoregressive Integrated Moving Average, with R.

You will learn:
• Understand TimescaleDB and how it can be utilized on PostgreSQL
• Review the architecture for developing data models, table design, and node architecture for TimescaleDB
• Demonstrate TimescaleDB on a billion-row data set and use R to calculate Seasonal ARIMA to find trends in cab fare data

SQL SERVER FOR DEVELOPERS
Developers have an incredible amount of impact on database application performance, and SQL Server Live! shines a spotlight to help developers deliver more. From topics like things you should not do in SQL Server, to improving performance in seven steps and a full-day SQL Server Developer Dive workshop, there’s plenty of content to keep you busy—or to supplement your Visual Studio Live! agenda.

SQT05 Fast Focus: Who’s Tinkling in Your Data Lake?
Introductory / Intermediate
KAREN LOPEZ
Tuesday, November 19, 1:30 – 1:50pm
The new data terms of Data Lake, Data Reservoir, and Data Swamp have left me with more questions than answers. In this presentation, Karen discusses the types of data anomalies that organizations can run into when they use external data, the wrong datasets for the right reasons and the right datasets for the wrong reasons. She uses her
own data to show you the impact of bad design decisions, incomplete testing, and other common mistakes.

These errors in design, oversights and old school, traditional practices can impact the success of your projects, even if you don’t use any data lakes.

You will learn:
• About the types of data quality errors that happen in real life
• How to mitigate these errors in SQL Server and other data technologies
• See real-life examples of the speaker’s data quality experiences

SQW04 Blockchain for the DBA & Data Professional
Introductory
KAREN LOPEZ
Wednesday, November 20, 9:30 – 10:45am

With all the hype around blockchain, why should a DBA or other data professional care? In this session, we will cover the basics of blockchain as it applies to data and database processes:
• Immutability
• Verification
• Distribution
• Cryptography
• Transactions
• Trust

We will look at current offerings for blockchain features in Azure and in database and data stores. Finally, we'll help you identify the types of business requirements that need blockchain technologies.

You will learn:
• Understand the valid uses of blockchain approaches in databases
• How current technologies support blockchain approaches
• Understand the costs, benefits, and risks of blockchain

SQW07 SQL Data Discovery and Classification
Intermediate
KAREN LOPEZ
Wednesday, November 20, 2:00 – 3:15pm

SQL Server Management Studio (SSMS) recently introduced SQL Data Discovery and Classification. This new feature allows teams to find and categorize sensitive data. SSMS looks at the names of columns to help you find where your most vulnerable data resides.

We’ll look at a new feature of SQL Server that supports maintaining the classification in auditing logs for columns.

For SQL DB and Azure Data Warehouse, we’ll look at Advanced Data Security to classify and record data classifications. Finally, we'll quickly look at how these classifications can feed into Azure SQL Database Auditing.

You will learn:
• The basics of data classification
• How to use SSMS and Azure Advanced Data Security to classify data in their databases
• How Azure SQL Database Auditing uses these classifications

SQL Server Performance Tuning and Optimization

Get the most from SQL Server—even if it's hosting a third-party application database. Learn the insider tricks to performance tuning, covering the query optimizer, adaptive query processing, cardinality estimates, execution plans, monitoring techniques, and a full day workshop for high performance development. SQL Server Live! helps you maximize your SQL Server investment.

SQT07 Fast Focus: Performance Tuning Without Changing Code
Intermediate / Advanced
THOMAS LAROCK
Tuesday, November 19, 2:00 – 2:20pm

We all know that great database performance starts with great database design.

Unfortunately, your database design stinks.

We all wish we could change the database design or T-SQL code, but there are times when it is not possible. As database usage patterns push poor database designs to their performance limits, DBAs are handed an impossible task: Make performance better but don’t change anything.

Attend this session and learn about the options available to help you fix database performance issues without touching code.

SQT12 Common Troubleshooting Techniques for Availability Groups and Failover Cluster Instances
Intermediate
ALLAN HIRT
Tuesday, November 19, 4:15 – 5:30pm

When things go wrong with Always On Availability Groups (AGs) or Always On Failover Cluster Instances (FCIs), it is not always apparent where to look and how to diagnose what happened. This session will help demystify where to look when you have a problem, as well as cover some of the more common issues you will see when implementing AGs and FCIs, whether you have them deployed on Windows Server or Linux.

You will learn:
• Understand the tools available for diagnosing availability problems with AGs and FCIs
• Understand how to troubleshoot FCIs
• Understand how to troubleshoot AGs
**SQW02 It’s Broken, Now What?! Practical Problem Solving**  
*Introductory / Intermediate*  
**WILLIAM DURKIN**  
**Wednesday, November 20, 8:00 – 9:15am**  
We’ve all experienced weird situations in IT - things break without any real apparent reason. Sometimes, error messages can be helpful, but mostly they are cryptic and lead to no real explanations/solutions.  
In this session, I will show a variety of problems that I have run into in the past and explain how I approached them. Sometimes finding simple solutions, but sometimes having to be creative and employ methods that may not be so intuitive.  
You will leave the session with a better understanding on how to approach solving any technical issues you experience at work.  
**You will learn:**  
• How to triage an outage/problem  
• Step-by-step approach to solving issues  
• Sound post-mortem analysis/documentation

**SQW05 SQL Server Open Query Store**  
*Introductory / Intermediate*  
**WILLIAM DURKIN**  
**Wednesday, November 20, 9:30 – 10:45am**  
When SQL Server 2016 was released, it offered a fantastic new feature with the Query Store. Long term, statistics based, query tuning became a reality. But what about the thousands of servers that aren’t upgrading to SQL 2016 or newer? The open source project Open Query Store is designed to fulfill that need.  
This session will give a short introduction to the Query Store feature in SQL 2016 and then dive into the Open Query Store (OQS) solution. William (co-creator of the OQS project) will explain the design of OQS and demonstrate the features. You will leave this session with an understanding of the features of Query Store and Open Query Store, and a desire to implement OQS in your systems when you return to the office.  
**You will learn:**  
• Demystify the inner workings of the Query Store  
• Show how to delve into the SQL Server engine  
• Empower attendees to explore niche features of SQL Server

**SQW08 Things You Should Never Do In Microsoft SQL Server**  
*Introductory*  
**DENNY CHERRY**  
**Wednesday, November 20, 2:00 – 3:15pm**  
In this fun session, we’ll review a bunch of problem implementations that have been seen in the real world. Most importantly we will look at why these implementations went horribly wrong so that we can learn from them and never repeat these mistakes again.  
This session is a story telling session. In other words, it’s stories about what people have done which have gone very, very wrong, usually with predictably horrible results. During this session, we’ll publicly (and anonymously) shame them so that everyone else can learn from their mistakes.  
If you’re looking for demos, well-crafted architecture designs, and proper speaking styles; this is not that session. If, however you want to learn from the horrible mistakes of others in a fast-paced session, this is the session for you.  
**You will learn:**  
• What not to do in SQL Server  
• Horrible things people have done in SQL Server  
• Please make the pain stop

**SQW11 Improve Your Database Performance in Seven Simple Steps**  
*Introductory / Intermediate*  
**HUGO KORNElis**  
**Wednesday, November 20, 4:00 – 5:15pm**  
You wrote the code, you tested it, it works, and it’s fast. So you deploy. And then those pesky users insist on entering not hundreds, not thousands, but millions of rows – and suddenly, you have performance problems.  
What to do? Blaming SQL Server is a good start, but won’t solve the problems. You can of course hire a database consultant to make all your performance problems (and all your money) disappear - but why not first take a look yourself?  
This session will show you seven simple things, that might alleviate most of your database related performance problems. Use these tricks at your workplace, and you can be the hero of the department!  
**You will learn:**  
• Understand why set-based queries are faster than cursor-based code  
• Understand why indexes are needed and how they can be optimally used  
• Understand good and bad parameter sniffing and how to work around the latter

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"I HAVE ENJOYED THE SPEAKERS AND I’VE LEARNED SO MUCH. THE CO-LOCATION HAS BEEN GREAT, AS I AM BOTH VISUAL STUDIO AND SQL SERVER.”  
- Joshua Buck, Finance Authority of Maine
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Jeff Stirrup
Principal, Data Relish Ltd

Gareth Swanepoel
Sr Program Manager, Microsoft

William Durkin
Data Architect, Data Masterminds

Bradley Ball
Premier Sr. Consultant, Premier Support for Developers, Microsoft

Kevin Feasel
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ROYAL PACIFIC RESORT AT UNIVERSAL
NOVEMBER 17 – 22, 2019

REGISTER NOW AT LIVE360EVENTS.COM/ORLANDO
# AGENDA-AT-A-GLANCE

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</table>

## TechMentor Full Day Hands-On Labs: Sunday, November 17, 2019

<table>
<thead>
<tr>
<th>Start time</th>
<th>End time</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:15 AM</td>
<td>9:00 AM</td>
<td>Registration • Coffee and Morning Pastries</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>6:00 PM</td>
<td>TMS01 Hands-On Lab: Building a Bulletproof Privileged Access Workstation (PAW) - Sami Laiho</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>6:00 PM</td>
<td>TMS02 Hands-On Lab: Rock JEA (Just Enough Administration) the Easy Way with Windows Admin Center – John O’Neill Sr.</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>7:00 PM</td>
<td>Pre-Conference Registration - Royal Pacific Resort Conference Center</td>
</tr>
</tbody>
</table>

## TechMentor Pre-Conference Workshops: Monday, November 18, 2019

<table>
<thead>
<tr>
<th>Start time</th>
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<tbody>
<tr>
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<td>8:30 AM</td>
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<tr>
<td>8:30 AM</td>
<td>5:30 PM</td>
<td>TMM01 Workshop: Azure from IAAS to PAAS—A Demo-Filled Workshop - Koenraad Haedens</td>
</tr>
<tr>
<td>8:30 AM</td>
<td>5:30 PM</td>
<td>TMM02 Workshop: PowerShell Remoting Deep Dive - Jeffery Hicks</td>
</tr>
<tr>
<td>6:30 PM</td>
<td>8:00 PM</td>
<td>Dine-A-Round Dinner @ Universal CityWalk - 6:30pm - Meet at Conference Registration Desk to walk over with the group</td>
</tr>
</tbody>
</table>

## TechMentor Day 1: Tuesday, November 19, 2019

<table>
<thead>
<tr>
<th>Start time</th>
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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 AM</td>
<td>8:00 AM</td>
<td>Registration • Coffee and Morning Pastries</td>
</tr>
<tr>
<td>8:00 AM</td>
<td>9:00 AM</td>
<td>TECHMENTOR KEYNOTE: Getting Employees to (Really) Adopt New Technology - Stephen Rose, Marketing and Storytelling Lead, Microsoft 365 Team, Microsoft</td>
</tr>
<tr>
<td>9:15 AM</td>
<td>10:30 AM</td>
<td>TMT02 Protecting Your Corporate Resources Using Azure Identity - Peter De Tender</td>
</tr>
<tr>
<td>9:15 AM</td>
<td>10:30 AM</td>
<td>TMT03 Zero Trust: Trust Identities, Not Your Network - Ricky Pullan &amp; Swetha Rai</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>11:00 AM</td>
<td>Networking Break • Visit the EXPO - Pacifica 7</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>12:00 PM</td>
<td>LIVES! 360 KEYNOTE: The Power of Real World DevOps - Jessica Deen, Azure Avenger, Microsoft &amp; Abel Wang, Senior Cloud Developer Advocate, Microsoft</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>12:45 PM</td>
<td>Lunch • Visit the EXPO</td>
</tr>
<tr>
<td>12:45 PM</td>
<td>1:30 PM</td>
<td>Dessert Break • Visit the EXPO</td>
</tr>
<tr>
<td>1:30 PM</td>
<td>1:50 PM</td>
<td>TMT04 Fast Focus: The 10 Handiest PowerShell Cmdlets for Managing Hyper-V - John O’Neill Sr.</td>
</tr>
<tr>
<td>1:30 PM</td>
<td>1:50 PM</td>
<td>TMT05 Fast Focus: Rock Configuration Manager in 20 Minutes - Émile Cabot</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>2:20 PM</td>
<td>TMT06 Fast Focus: PowerShell Fast &amp; Furious - Jeffery Hicks</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>2:20 PM</td>
<td>TMT07 Fast Focus: Be a Better Speaker—How to Create Presentations that Inspire and Make People Care - Erwin Derksen</td>
</tr>
<tr>
<td>2:20 PM</td>
<td>2:45 PM</td>
<td>Networking Break • Visit the EXPO - Pacifica 7</td>
</tr>
</tbody>
</table>

*Speakers and sessions subject to change*
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<tr>
<td><strong>START TIME</strong></td>
<td><strong>END TIME</strong></td>
<td><strong>TechMentor Day 1: Tuesday, November 19, 2019 (continued)</strong></td>
<td><strong>TechMentor Day 2: Wednesday, November 20, 2019</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2:45 PM</td>
<td>4:00 PM</td>
<td>TMT08 An Inclusive Look at Fighting Phishing - Roger Grimes</td>
<td>Registration • Coffee and Morning Pastries</td>
<td></td>
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<tr>
<td>4:15 PM</td>
<td>5:30 PM</td>
<td>TMT11 Fast-Track Your Way to IT Pro Rockstar Status - John O'Neill Sr. &amp; Cristal Kawula</td>
<td>TMW01 10 Ways to Hack You Via Email - Roger Grimes</td>
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<tr>
<td>5:30 PM</td>
<td>7:30 PM</td>
<td>Exhibitor Reception - Pacifica 7</td>
<td>8:00 AM</td>
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<td><strong>START TIME</strong></td>
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</tr>
<tr>
<td>2:45 PM</td>
<td>4:00 PM</td>
<td>TMT08 An Inclusive Look at Fighting Phishing - Roger Grimes</td>
<td>TMT09 Troubleshooting the Modern Managed Client - Ronnie Pedersen</td>
<td>TMT10 Azure Windows Virtual Desktop – Deploy and Configure in 50 Minutes - Koenraad Haedens</td>
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<tr>
<td>Speakers and sessions subject to change</td>
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<tr>
<td><strong>START TIME</strong></td>
<td><strong>END TIME</strong></td>
<td><strong>TechMentor Day 3: Thursday, November 21, 2019</strong></td>
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<td>7:30 AM</td>
<td>8:00 AM</td>
<td>Registration • Coffee and Morning Pastries</td>
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</tr>
<tr>
<td>8:00 AM</td>
<td>9:15 AM</td>
<td><strong>TMH01</strong> Build Your Azure Infrastructure like a Pro - Aleksandar Nikolic</td>
<td><strong>TMH02</strong> Imposter Syndrome: Overcoming Self-Doubt in Success - Heather Downing</td>
<td><strong>TMH03</strong> Windows Autopilot Deep Dive - Petri Paavola</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:30 AM</td>
<td>10:45 AM</td>
<td><strong>TMH04</strong> How to Get Your Cloud Services Secured with Intune and Azure AD - Peter Daalmans</td>
<td><strong>TMH05</strong> Best Tips to Make the Life of SCCM Admins Easier! - Panu Saukko</td>
<td><strong>TMH06</strong> What I Learned When I Moved my Operations to the Cloud - Sami Laiho</td>
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</tr>
<tr>
<td>11:00 AM</td>
<td>12:00 PM</td>
<td>TECHMENTOR PANEL DISCUSSION: The Future of IT Moderated by Sami Laiho and Dave Kawula; Emilie Cabot, Petri Paavola, &amp; Panu Saukko</td>
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<tr>
<td>12:00 PM</td>
<td>1:00 PM</td>
<td>Lunch - Oceana Ballroom</td>
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<tr>
<td>1:00 PM</td>
<td>2:15 PM</td>
<td><strong>TMH07</strong> Building Real World Labs in Azure - Dave Kawula</td>
<td><strong>TMH08</strong> Implementing Proactive Security in the Cloud - Sami Laiho</td>
<td><strong>TMH09</strong> How to Use PowerShell to Become a Windows Management SuperHero—2019 Edition - Petri Paavola</td>
<td></td>
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</tr>
<tr>
<td>2:30 PM</td>
<td>3:45 PM</td>
<td><strong>TMH10</strong> Becoming a Community Rockstar - Cristal Kawula</td>
<td><strong>TMH11</strong> Managing Azure VMs with Windows Admin Center - Aleksandar Nikolic</td>
<td><strong>TMH12</strong> Ready, Set, Go: Start Managing Your Windows 10 Devices with Intune - Panu Saukko</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00 PM</td>
<td>5:00 PM</td>
<td>Bradley Ball, Andrew Brust, Ben Curry, Peter Daalmans, Joseph D’Antoni, Marcel de Vries, Billy Hollis, Dave Kawula, Raj Krishnan, Thomas Sami Laiho, LaRock, Vishwas Lele, Rockford Lhotka, Karen Lopez, Matthew McDermott, Agnes Molnar, Brian Randell, Panu Saukko, Jen Stirrup, &amp; Alex Thissen</td>
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<tr>
<td>START TIME</td>
<td>END TIME</td>
<td><strong>TechMentor Post-Conference Workshops: Friday, November 22, 2019</strong></td>
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<tr>
<td>8:00 AM</td>
<td>5:00 PM</td>
<td><strong>TMF01</strong> Workshop: Migrating and Upgrading to Windows Server 2019 - Dave Kawula</td>
<td><strong>TMF02</strong> Workshop: How to Build Intune Managed Windows 10 with the Best User Experience - Petri Paavola</td>
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Speakers and sessions subject to change
FULL DAY HANDS-ON LABS

These instructor-led, pre-conference Hands-On Labs offer attendees intensive in-depth training before the conference officially begins. Choose from eight extended 8-hour labs and take advantage of in-person instruction as well as collaboration with peers.

Attendance for each Hands-On Lab is limited, so be sure to sign up early for these special bring your own laptop pre-conference HOLs.

TMS01 Hands-On Lab: Building a Bulletproof Privileged Access Workstation (PAW)

**Introductory**

SAMI LAIHO
Sunday, November 17, 9:00am – 6:00pm

You do remember that RDP connections on servers are for emergency purposes only? And that you cannot fully manage Group Policies from a server but only from a Windows 10 workstation? In this session one of the world leading security and Windows experts, Sami Laiho, will teach you how to build and configure a Privilege Access Workstation (PAW). PAWs are the recommended, most secure and most effective way of managing servers and services.

**You will learn:**
- How to manage servers securely
- How to configure a Privileged Access Workstation (PAW)
- How to configure Active Directory to support PAWs

TMS02 Hands-On Lab: Rock JEA (Just Enough Administration) the Easy Way with Windows Admin Center

JOHN O’NEILL SR.
Sunday, November 17, 9:00am – 6:00pm

Windows Admin Center continues its march to dominance over administering all things within the Windows ecosystem. Unfortunately, this could lead to IT Admins having more access than really required to complete a given task. Does a DNS admin need capability to reboot a server? Probably not. Enter Just Enough Administration, aka JEA. JEA provides the tools necessary to focus Windows Admin Center on a specific technology, without exposing unnecessary capability. During this hands-on lab, don’t just hear about these technologies, actually roll up your sleeves and setup, configure, and monitor Windows Admin Center leveraging JEA to empower technicians with on-point tools.

**You will learn:**
- The risks of uncontrolled admin tools
- How to setup and configure Windows Admin Center
- How to deploy JEA for specific use-case scenarios such as DNS administration, DHCP administration, and Print Server Administration

**Attendee Requirements:**
You must provide your own laptop computer (Windows or Mac) with access to internet for this hands-on lab.

WORKSHOPS

Choose from a wide range of content and topics by expert presenters with Live! 360 Orlando’s Pre- and Post-Conference full-day workshops.

TMM01 Workshop: Azure from IAAS to PAAS - A Demo-Filled Workshop

*Intermediate / Advanced*

KOENRAAD HAEDENS
Monday, November 18, 8:30am – 5:30pm

Learn the latest and greatest updates to the Azure Platform IaaS and PaaS services, bringing you all the required knowledge to start architecting and deploying Azure resources with confidence as soon as you are back in the office. Because of the high pace and massive amount of content of this session, it is advised to have experience with Azure concepts already, or have experience in using other public cloud platforms and are eager to learn what Azure Resource Manager has to offer.

Content is targeted to IT Pros, Architects, and Developers who are interested in a good combination of architect–to–architect knowledge sharing, inspired by a demo-packed workshop day.

**Contents/Topics covered in the workshop:**
- Azure subscriptions, Role Based Access Control, Azure Resource Policies
- Azure VMs, Azure Storage Overview, Availability Sets
- ARM Template design & deployment using Visual Studio / Visual Studio Code
- Azure Active Directory, Azure AD Connect, Azure Application Access Panel
- Azure Web Sites and Azure Mobile Services
- Log Analytics, Application Insights, Azure Monitor

**You will learn:**
- Best practices of Azure subscriptions and how to configure the right access roles
- About architecting and deploying Azure VMs, storage and complex network solutions

“SPEAKERS WERE AWESOME. FOOD WAS GOOD. THE APP WAS GREAT!!!”
- Jayne Corneliusen, Marvin Windows and Doors
TECHMENTOR SESSION DESCRIPTIONS BY TRACK (continued)

- Understanding Azure Disaster Recovery and High Availability solutions
- Implementing Azure Identity and enabling Single Sign-On to SaaS applications
- Deploying Azure Applications Services
- Overview of the different Azure Monitoring tools available today
- DevOps concepts in an Azure world, aka Infrastructure as Code

TMM02 Workshop: PowerShell Remoting Deep Dive
Intermediate / Advanced
JEFFERY HICKS
Monday, November 18, 8:30am – 5:30pm
PowerShell Remoting Deep Dive
Microsoft wants you to be able to manage anything from anywhere using PowerShell. For that to happen you will need to take advantage of PowerShell Remoting. For that to happen effectively and securely you are going to need more than simple remoting. This full-day workshop, led by PowerShell author and expert Jeff Hicks, will guide into the depths of PowerShell remoting in both the Windows PowerShell and Core worlds. We’ll look at how to setup secure sessions with SSL, how to remote with SSH, how to use disconnected sessions and we’ll dive into Just Enough Administration.

You will learn:
- How to create and deploy a JEA endpoint
- How to use SSH remoting with PowerShell Core
- How to securely setup PowerShell remoting

TMOF01 Workshop: Migrating and Upgrading to Windows Server 2019
Introductory
DAVE KAVALU
Friday, November 22, 8:00am – 5:00pm
During this Workshop attendees will learn about Dave’s proven methodology for Zero Downtime Windows Server Migrations and Upgrades. All guidance provided is based on proven migration and upgrade techniques. With time running out for Windows Server 2008 this will be your last chance to gain key knowledge on how to beat the January 2020 deadline.

You will learn how to Migrate or Upgrade:
- Active Directory
- DHCP
- DNS
- File
- Print
- IIS
- Certificate Services
- WSUS
- Storage Spaces Direct
- Hyper-V

As a bonus, Dave and his team have written a new book on this topic you will get to use this as a workbook to follow along and complete your migrations or upgrades once you get home.

You will learn:
- Make key decisions regarding upgrades or migrations
- Learn step-by-step guidance on the migration or upgrade process
- Build a plan to upgrade key workloads to Windows Server 2019

TMOF02 Workshop: How to Build Intune Managed Windows 10 with the Best User Experience
Intermediate
PETRI PAAVOLA
Friday, November 22, 8:00am – 5:00pm
This workshop shows how to build and configure Intune managed Windows 10 Workstation environment. And not just build ordinary environment but configure Windows 10 Devices which have really good user experience and look & feel.

Windows Autopilot removes needs to do imaging and driver management. In this workshop we go through all options to use Windows Autopilot and what you need to know when starting your own Autopilot testing and deployments.

Windows computer without application is not usable so this workshop also shows the most common ways to deploy applications with Intune.

For complex software deployment we usually use PSAppDeploy toolkit with Intune. This workshop shows examples of how to deploy any application easily with Intune.

Petri also shares his real life’s experiences from several real-world projects based on his vast experience with Cloud Managed Windows 10 installations in hundreds of schools/cities/municipalities in Finland.

You will learn:
- How to build and configure Intune Managed Windows 10 environment
- What settings to configure to get best user experience
- How to configure and use Windows Autopilot

CLIENT AND ENDPOINT MANAGEMENT
As apps are moving to the cloud more than ever, you still need to support, upgrade, migrate, and troubleshoot all of the endpoints to use those apps. This year at TechMentor, we are hosting a new lineup of client-centric sessions from expert speakers on Windows, Android, and iOS devices.

TMF05 Fast Focus: Rock Configuration Manager in 20 Minutes
Intermediate
ÉMILE CABOT
Tuesday, November 19, 1:30 – 1:50pm
Packed with tips and tricks, this session is geared towards ConfigMgr admins of all levels. From core configurations to little-known features, we show you how to make SCCM purrrr.
You will learn:
• Optimize the core infrastructure of your SCCM environment
• Effectively manage and troubleshoot device environments of all sizes
• Discover un-utilized features of SCCM that ease operational management

TECHMENTOR SESSION DESCRIPTIONS BY TRACK (continued)

TMT09 Troubleshooting the Modern Managed Client
Intermediate / Advanced
RONNIE PEDERSEN
Tuesday, November 19, 2:45 – 4:00pm
During this session we will dive deep into how to troubleshoot the Microsoft 365 managed desktop. We will review many common areas of misconfiguration and the corresponding errors that you might see when you are deploying applications and managing Windows 10 desktops using Windows Autopilot and Microsoft Intune. This session covers real-world examples and notes from the fields when we dive deep into the nuts and bolts of these scenarios through the tools of troubleshooting.

TMW03 Windows Autopilot Deep Dive
Introductory / Intermediate
PETRI PAAVOLA
Thursday, November 21, 8:00 – 9:15am
Windows Autopilot has been available for over 2 years now. Hardware OEM support for Autopilot really gave this technology push early 2019. White Glove is a new feature which allows computer pre-installation with Autopilot before device is shipped to end user. This session will show how Autopilot White Glove works and what benefits we get with that.
And this is not just Autopilot story. There are many other technologies helping to configure and manage workstations. We will cover most important technologies supporting Windows 10 workstations with software and settings we need without thinking image or driver management.
You will learn:
• What Windows Autopilot and how it works
• How Autopilot White Glove works and it’s benefits
• Can we really forget imaging and driver management

TMH05 Best Tips to Make the Life of SCCM Admins Easier!
Intermediate / Advanced
PANU SAUKKO
Thursday, November 21, 9:30 – 10:45am
Join this session to learn a lot of battle-tested tips to make managing SCCM much easier. Panu has worked with SMS/SCCM for many, many years and he’ll share his most useful tips. They are in the following categories: SCCM console, inventory/reporting, software deployment, operating system deployment, and patching!

And if you have a great tip, this is great opportunity for you to share it to others!
You will learn:
• Finish your SCCM day-to-day tasks more effectively
• Improve your SCCM skills
• Share your own tips if you like

TMH09 How to Use PowerShell to Become a Windows Management SuperHero - 2019 Edition
Intermediate / Advanced
PETRI PAAVOLA
Thursday, November 21, 1:00 – 2:15pm
In this heavily demo based session Petri will demonstrate how PowerShell can help you with your daily tasks. With PowerShell we can do virtually anything we want to. There are a few basic tips and tricks which will help on your journey to PowerShell. Petri will show real life demos used in actual client environments.
Earlier we have covered PowerShell Graphical UI’s a little bit but actually we have not even started yet. Petri will show and share his latest PowerShell based GUI examples. Normal users will not even recognize they are using programs which are made with PowerShell.
We can do HTML pages/reports easily with PowerShell. Petri will show few tricks which helps you start building your own HTML pages with PowerShell data.
We will also look into Microsoft Graph API and PowerShell Cmdlets for easy access to Graph API functions.
You will learn:
• Visualizing PowerShell data structures in a new way
• How to make HTML pages/reports easily with PowerShell
• PowerShell Graphical UIs next level
TECHMENTOR SESSION DESCRIPTIONS BY TRACK (continued)

**TMH12** Ready, Set, Go: Start Managing Your Windows 10 Devices with Intune  
*Intermediate*  
**PANU SAAUKKO**  
*Thursday, November 21, 2:30 – 3:45pm*  
So you have heard about modern cloud based Windows 10 management, but you haven’t had time to figure it out? Come to this demo-packed session and you’ll see in 75 minutes, how easily you can start managing your Windows 10 devices with Intune.  
We’ll cover all the necessary steps including:  
- Configuring your tenant  
- Enrolling your devices  
- Managing Windows 10 settings  
- Deploying Office 365 ProPlus and other apps to devices  
You will learn:  
- Configure Intune tenant for Windows 10 devices  
- Enrolling Windows 10 devices  
- Deploying settings and applications to Windows 10 devices  

**TMT01** PowerShell Tools and Techniques Basics for IT Pros, Not Devs  
*Introductory / Intermediate*  
**JOHN O’NEILL SR.**  
*Tuesday, November 19, 9:15 – 10:30am*  
PowerShell is a super power for Windows admins. The problem is admins must focus on being admins, not learning the intricacies of coding conventions and programmatic constructs. Are you trapped in this black hole, with countless hours sucked away from your other IT responsibilities? If so, this session is for you! This session will cover numerous PowerShell tools, techniques, tips, and tricks that make short work of the most common IT Pro admin tasks!  
You will learn:  
- Three foundation concepts empowering all IT Pros to leverage PowerShell  
- Tools speeding up PowerShell use  
- Turning one-liners into functions and functions into modules  

**TMT06** Fast Focus: PowerShell Fast & Furious  
*Introductory / Intermediate*  
**JEFFERY HICKS**  
*Tuesday, November 19, 2:00 – 2:20pm*  
Is PowerShell a part of your daily work routine? Are you doing more than simply running scripts? Do you want to? In this lightning-quick session PowerShell expert Jeff Hicks will share a number of tricks and tools for getting more done with PowerShell faster. Hate typing? Then this is the session for you.  
You will learn:  
- How to leverage parenthetical expressions in PowerShell  
- How to leverage key handles in PSReadline  
- How to type less and get more done in PowerShell  

**POWERSHELL AND DEVOPS**  
Whether you are a PowerShell junkie or a newbie, TechMentor is bringing everything PowerShell, automation, and the DSC to you as part of the new DevOps approach to things. Sessions in this track will focus on the tools and techniques you need to succeed. With PowerShell as the only required management interface for future Microsoft products, it is imperative that you can keep up!  

**TMT04** Fast Focus: The 10 Handiest PowerShell Cmdlets for Managing Hyper-V  
*Introductory / Intermediate*  
**JOHN O’NEILL SR.**  
*Tuesday, November 19, 1:30 – 1:50pm*  
Hyper-V continues taking over virtual workloads in datacenters worldwide. The GUI-based Hyper-V Manager provides popular tools, but admins today work the PowerShell way! Attend this session and learn PowerShell one-liners for everything from starting/pausing/stopping VMs to checking host and VM health!  
You will learn:  
- The the Hyper-V module, including support for different host versions  
- How to perform basic and advanced Hyper-V admin tasks using PowerShell  

**TMT10** Azure Windows Virtual Desktop – Deploy and Configure in 75 Minutes  
*Intermediate*  
**KOENRAAD HAEDENS**  
*Tuesday, November 19, 2:45 – 4:00pm*  
Deploy and scale virtualized Windows desktops and apps on Azure. Windows Virtual Desktop Preview is a comprehensive desktop and app virtualization service running in the cloud. ... Deploy and scale your Windows desktops and apps on Azure in minutes, and get built-in security and compliance features.  
You will learn:  
- What is Azure - Windows virtual Desktop  
- What are the prerequisites for installation  
- How to setup  
- Publish desktops and/or RemoteApps
TMT13  Secure Remote Management with Just Enough Administration
Introductory / Intermediate
JEFFERY HICKS
Tuesday, November 19, 4:15 – 5:30pm
Remotely managing your data center whether on-premises or in the cloud with PowerShell is very easy; if you have administrator privileges. But there are plenty of scenarios where you’d like to provide remote access but don’t want to provide full admin access. That’s where Just Enough Administration or JEA comes into play. With JEA you can safely provide access to non-admins and limit what commands they can run. You can even limit what parameters they use and what values can be accepted. In other words, just enough administration to get the job done. This session is intended to introduce concepts and tools and demonstrate how you can get started today.
You will learn:
• About delegated and constrained PowerShell remoting endpoints
• How to use create a JEA endpoint
• How to configure a JEA endpoint

TMW06  Become a PowerShell Debugging Ninja!
Intermediate / Advanced
KIRK MUNRO
Wednesday, November 20, 9:30 – 10:45am
Have you ever tried using a PowerShell script or module to solve a problem you were having and it just wouldn’t work, but you couldn’t understand why? Have you written your own script and it worked fine on your machine but not in a job, scheduled task, or on another machine? PowerShell has definitely hit the mainstream, and being able to efficiently debug PowerShell scripts is an essential skill to have in your tool belt today. The insider secret is that it’s not hard! Come to this session to unleash your inner PowerShell debugging ninja by learning how to:
1. Identify defensive scripting techniques to reduce the need for debugging
2. Use the debugger (it’s not just for programmers!)
3. Scripting best practices that allow you to tighten your code-debug loop for optimal efficiency, maximizing your scripting time.
You will learn:
• “Soft” debugging skills that reduce or eliminate the need to work with a PowerShell debugger when it’s not necessary
• “Hard” debugging skills that will help you get the most value for the least effort when working with the PowerShell debugger
• Best practices and tips and tricks that increase reliability and efficiency when writing and debugging PowerShell scripts and modules

TMW09  Creating and Sharing Awesome PowerShell Modules: A No Nonsense Guide
Intermediate
KIRK MUNRO
Wednesday, November 20, 2:00 – 3:15pm
You’ve written some PowerShell scripts. You may also have created some functions, and shared them with others, maybe via email, a file share, or even the PowerShell Gallery. Along the way you probably encountered some of the many capabilities of PowerShell that allow you to create a library of commands that work like native PowerShell cmdlets do, maybe thought about source control, automated testing, creating a CI/CD pipeline...and then your head started to hurt. There are a lot of details involved in creating and sharing PowerShell modules, so how do you evolve from PowerShell scripter to PowerShell module author without getting lost along the way? In this session I’ll share the lessons I’ve learned from working with PowerShell over the past 12 years, explain the capabilities you should care about when creating modules, and identify those you should otherwise ignore, and talk about the tools available to you that allow you to make the most of your time and create awesome PowerShell modules that you can be proud of for a long time to come.
You will learn:
• Creating PowerShell modules is easy
• Sharing modules with others and leveraging modules shared by others is worth your time and effort
• With a little help, it’s easy to get started with automated testing, CI/CD, and source control
TMW12  Life Beyond Functions:  
Creating PowerShell Script Cmdlets  
(aka Advanced Functions)  
Introductory / Intermediate  
MICHAEL WILEY  
Wednesday, November 20, 4:00 – 5:15pm  
While functions in Windows PowerShell work very similar to other scripting languages, PowerShell Advanced Functions behave just like compiled cmdlets. Capabilities can be added to Advanced Functions that include help, advanced parameters, validation attributes, access to common parameters like “-Verbose” and “-ErrorAction”, risk mitigation, dynamic parameters, and other capabilities that cmdlets natively support. The difference between authoring a compiled cmdlet and scripting an Advanced Function is that compiled cmdlets are .NET classes written in a .NET Framework language, whereas Advanced Functions are written in the PowerShell script language and borrow the native cmdlet functionality.  
You will learn:  
  • Write functions in PowerShell that will operate exactly like core cmdlets including access to common and risk mitigation parameters  
  • Implement stricter organization and control of PowerShell code within the enterprise  
  • Take advantage of controlling exact static and positional PowerShell parameter behavior

INFRASTRUCTION  
TechMentor’s Infrastructure track covers the services that make the server, client, mobile, application, and services work together in an IT environment. Expert instructors are coming together to discuss today’s hot topics such as Server 2016/2019 network services, Certificate Services, Network Troubleshooting, Group Policy, and more.

TMH01  Build Your Azure Infrastructure like a Pro  
Intermediate / Advanced  
ALEKSANDAR NIKOLIC  
Thursday, November 21, 8:00 – 9:15am  
Today, it’s clear that declarative deployment model is the way to go for creating Azure resources. ARM templates enable you to create your Azure infrastructure using code. DSC enables you to manage configuration of your Windows and Linux servers using code. Combined them and get a full declarative solution to build your environment and provision your VMs. Or, follow Microsoft recommendation and provision a plain vanilla server and manage their configuration using Azure Automation DSC? Join us to learn about Azure offerings to build your infrastructure in a cloud like a professional.  
You will learn:  
  • How to use DSC with ARM templates to provision and configure a VM  
  • How to configure and monitor a VM using Azure Automation DSC  
  • What are the pros and cons for both VM deployment methods

TMF01  Workshop: Migrating and Upgrading to Windows Server 2019  
Introductory  
DAVE KAWULA  
Friday, November 22, 8:00am – 5:00pm  
During this Workshop attendees will learn about Dave’s proven methodology for Zero Downtime Windows Server Migrations and Upgrades. All guidance provided is based on proven migration and upgrade techniques. With time running out for Windows Server 2008 this will be your last chance to gain key knowledge on how to beat the January 2020 deadline.  
You will learn how to Migrate or Upgrade:  
  • Active Directory  
  • DHCP  
  • DNS  
  • File  
  • Print  
  • IIS  
  • Certificate Services  
  • WSUS  
  • Storage Spaces Direct  
  • Hyper-V  
As a bonus, Dave and his team have written a new book on this topic you will get to use this as a workbook to follow along and complete your migrations or upgrades once you get home.  
You will learn:  
  • Make key decisions regarding upgrades or migrations  
  • Learn step-by-step guidance on the migration or upgrade process  
  • Build a plan to upgrade key workloads to Windows Server 2019
SOFT SKILLS FOR IT PROS

Becoming a successful IT Pro requires more than just technology skills, so let TechMentor guide you with informative sessions offering basic career and communication skills to help you reach the next level. This track focuses on simple presentation skills, how to sell ideas to your boss, documentation, and more.

TMT07 Fast Focus: Be a Better Speaker - How to Create Presentations that Inspire and Make People Care
Intermediate / Advanced
ERWIN DERKSEN
Tuesday, November 19, 2:00 – 2:20pm
In this session, you will learn to design, create and deliver a good presentation. I will share my knowledge and inspire you to improve with bullet-free engaging material. Be part of my mission to kill boring presentations!
You will learn:
• How to prepare a good story / presentation flow
• How to properly design slides (and where to get imagery)
• Tips on presentation delivery

TMT11 Fast-Track Your Way to IT Pro Rockstar Status
Introductory / Intermediate
JOHN O’NEILL SR. & CRISTAL KAWULA
Tuesday, November 19, 4:15 – 5:30pm
Those new to IT often look at seasoned IT Pros wondering “how do they get things done so fast?” Usually, the answer is as simple as the tools in our toolbox. Over the years, we identify tools and techniques empowering us to complete a task in minutes rather than hours. Is it really necessary to wait years to gain these tools? NO! In this session, John O’Neill Sr. and Cristal Kawula share the tools gained through 50 plus years combined experience in IT. Server management, network management, storage management, identifying performance issues, ensuring rock-solid disaster recovery, and much more is packed into this session!
You will learn:
• 50+ years of tools and techniques for IT Pro Rockstar success
• High efficiency server, network, and storage support
• Increasing security while completing tasks and projects in record time

TMW11 5 Crucial Mistakes Made in IT-Projects (and How to Avoid Them)
Intermediate / Advanced
ERWIN DERKSEN
Wednesday, November 20, 4:00 – 5:15pm
Many IT-projects don’t meet expectations, run over budget and time or run forever and a week. I show you 5 things that you can apply to your projects to improve your results that are based on 20 years of experience in IT-Projects.
You will learn:
• Setting expectations correctly
• How to treat IT-people, users, customers and no-no’s
• Make progress and mistakes, don’t just cover your ass

TMH02 Imposter Syndrome: Overcoming Self-Doubt in Success
Introductory
HEATHER DOWNING
Thursday, November 21, 8:00 – 9:15am
Impostor Syndrome is the domain of the high achiever. Those who set the bar low are rarely its victim. What matters most is not whether we fear failing, looking foolish or not being enough; it’s whether we give those fears the power to keep us from taking the actions needed to achieve our goals and highest aspirations. In this session, we will bring this sensitive subject to light by exploring:

• Why having this mindset is detrimental to your career
• Identifying the differences between healthy concern and illogical doubt
• What it actually means to "fake it till you make it"
• How believing something negative about yourself can make it really happen
• Ways to cope once you experience a sincere failure
• Learning to graciously express confidence

You will learn:
• Why having this mindset is detrimental to your career
• How believing something negative about yourself can make it really happen
• Ways to cope once you experience a sincere failure

TMH10 - Becoming a Community Rockstar
Introductory
CRISTAL KAWULA
Thursday, November 21, 2:30 – 3:45pm
Have you struggled to get up in front of people and talk about the amazing things you know and love about IT? Do you find it difficult to come up with ideas for speaking sessions and topics? During this session, Cristal will show you how the process works and how to up your speaking game. Also in this session, Cristal will show you how to quickly get your information out there in various channels including: Blogs, Twitter, Facebook, and YouTube. At the end of this session, the only question you will be left asking yourself is where is the next conference and how can I submit my sessions and become a part of this amazing IT Community.
TECHMENTOR SESSION DESCRIPTIONS BY TRACK (continued)

SECURITY
As threats continue to evolve, it is important to keep up with the latest in security such as securing window clients, ransomware, forensics, blocking malware, and monitoring, as well as exploring ways that attackers try to beat your best security measures. Explore this track to learn what you need to do to keep safe in these new environments.

TMT03 Zero Trust: Trust Identities, Not Your Network
Intermediate
RICKY PULLAN & SWETHA RAI
Tuesday, November 19, 9:15 – 10:30am
So, you implicitly trust your corporate network perimeter, but should you? The traditional corporate boundary focused approach to security is no longer sufficient to defend against today’s emerging threat patterns. In this breakout session, you’ll learn how Azure AD can accelerate your organization’s move to a zero-trust model by validating a user’s access to resources regardless of device or location. This session is designed for identity and security admins that want to improve the security posture of their organization.

You will learn:
• Identify why identity is the control plane
• How to secure your identity infrastructure
• Implement your Zero-Trust network using conditional access, Intune and other Microsoft products

TMT08 An Inclusive Look at Fighting Phishing
Introductory / Intermediate
ROGER GRIMIES
Tuesday, November 19, 2:45 – 4:00pm
This presentation is an inclusive look at all the methods and tools, both technical and non-technical, which can help your organization significantly reduce phishing risk. No other presentation puts it all together from policy to tools and training to cybersecurity insurance.

You will learn:
• How to best fight phishing
• What does and doesn’t work
• Where you need to change policy to help fight phishing

TMT12 Azure Security at Your Service (Learn Azure Security Center and Azure Sentinel)
Intermediate / Advanced
PETER DE TENDER
Tuesday, November 19, 4:15 – 5:30pm
In the early days of cloud, we were all skeptic on security. Even after 10 years with Azure and Office 365, some nay-sayers still don’t trust cloud. But funny enough, Azure can actually dramatically optimize a datacenter’s security posture, using out-of-the-box-tools, and in an easy to manage way.

If you are worried about cloud security, or just want to learn what Azure Security Center and Sentinel can do for your Azure workloads, this is a must attend session.

You will learn:
• Why Azure is probably more secure than your own datacenter

TMW07 Surviving a Ransomware Attack Using Azure Site Recovery (Demo Fest)
Introductory
ÉMILE CABOT & DAVE KAWULA
Wednesday, November 20, 2:00 – 3:15pm
From Enterprise Admin credentials being leaked to a limited access breach, we will go into detail on two different Ransomware attacks. We look at the attacker’s approach, the DR solutions in place, and what was ultimately required for a complete recovery. This session is a great opportunity to learn from others’ mistakes, and ensure you’re taking the right steps to protect your important data.

This session is 100 % demo based and will showcase:
• Azure Site Recovery
• Azure Security Center
• Windows Defender Advanced Threat Protection for Servers
• Ransomware Testing Tools

If you are serious about protecting your infrastructure from cyber attacks like Ransomware, this session is a must attend.

You will learn:
• Why traditional DR does not protect against Ransomware
• What procedures need to be in place when an attack occurs
• Step-by-Step remediation guide

TMW01 10 Ways to Hack You Via Email
Introductory / Intermediate
ROGER GRIMIES
Wednesday, November 20, 8:00 – 9:15am
Everyone knows email is one of the most common methods for hackers to compromise users and environments. This presentation covers 10 of the most interesting methods of how it can be done, beyond the regular attacks (e.g. phishing, file attachments, etc.) that most people know about. It includes several video demos, including one by world famous hacker Kevin Mitnick.

Attendees will be surprised and wowed by the innovative attacks and just how easy they are to accomplish.

You will learn:
• New ways you can be hacked via email
• About new tools that hackers are using to exploit email
• How to protect yourself from advanced email hacks
TECHMENTOR SESSION DESCRIPTIONS BY TRACK (continued)

TMH06  What I Learned When I Moved my Operations to the Cloud  
 Introductory  
 SAMI LAIHO  
 Thursday, November 21, 9:30 – 10:45am  
 For sometime I’ve heard my followers asking me if I have moved to the cloud already. I have been quite reluctant to take the bold step of learning new ways to operate my own infrastructure but in 2019 I finally moved my own infrastructure to the cloud. I can tell you it wasn’t an easy thing to do. In this session, I share my personal story on what worked and what didn’t, what was easy and what was hard, and how I really did it – one step at a time.  
 You will learn:  
• What works in Azure and what doesn’t  
• How much does Azure really cost  
• How to ease the transition to the cloud

TMH08  Implementing Proactive Security in the Cloud  
 Introductory  
 SAMI LAIHO  
 Thursday, November 21, 1:00 – 2:15pm  
 Security is quite simple and easy to configure with a traditional Active Directory and Group Policies. The same things are needed in the modern world but setting them with Azure AD and Intune is not that easy. Come and save yourself weeks of figuring out things yourself by joining one of the world’s leading Security and Windows experts, Sami Laiho, in this session where he will show you the more advanced Azure Identity features like Conditional Access, Azure Information Protection, Privileged Identity Management and more.  
 You will learn:  
• Integrating Active Directory with Azure Identity  
• Securing your devices using Azure AD features  
• Optimizing your users and admins security posture with Azure AD

AZURE (PUBLIC/HYBRID)  
This track brings real-world discussions on the cloud to you as you are using it: hybrid, connected, private, and absolutely real. Let TechMentor bring you everything from the on-site Azure Stack to everything in the Cloud, including Azure IaaS, DevOps, Labs, Networking, and Scripting, and Automation.

TMT02  Protecting Your Corporate Resources Using Azure Identity  
 Intermediate / Advanced  
 PETER DE TENDER  
 Tuesday, November 19, 9:15 – 10:30am  
 While it might sound a bit strange to position an identity solution when talking about protecting resources, that is exactly the ultimate purpose of deploying Azure Identity solutions. Starting from the pure authentication/user validation process protection features, Peter De Tender - Azure MVP, Microsoft Certified Trainer and passionate Azure enthusiast - will show you the more advanced Azure Identity features like Conditional Access, Azure Information Protection, Privileged Identity Management and more.  
 You will learn:  
• How to build real-world labs  
• Use Azure for your Dev / Test Labs  
• Configure Azure for use with Commercial Network Load Balancers  
• Extend Internet traffic into your Nested Lab in Azure  
• Troubleshoot Azure for your labs

TMH11  Managing Azure VMs with Windows Admin Center  
 Introductory / Intermediate  
 ALEKSANDAR NIKOLIC  
 Thursday, November 21, 2:30 – 3:45pm  
 Windows Admin Center (WAC), an evolution of Windows Server in-box management tools, is built with the cloud in mind. Although WAC has no Azure dependencies or requirements, you can use it to manage your Azure VMs in addition to your on-premises machines with the same, consistent, simplified tools WAC provides. Join us to learn about configuration steps needed to manage Azure VM from an on-premises WAC gateway and a WAC gateway deployed in Azure. To spice the session up a little, we will also demo how to deploy WAC using the Azure Automation DSC service.  
 You will learn:  
• About the tools provided in WAC  
• Configuration steps needed to manage Azure VM from an on-premises WAC gateway  
• Configuration steps needed to manage Azure VM from a WAC gateway deployed in Azure
Office 365 for the IT Pro
Almost all IT Pros are experienced in managing and supporting Office 365. This track will provide you with the up-to-date skills needed to manage, secure, and troubleshoot all aspects of Office 365 as an administrator. Check out informative sessions on deploying Office ProPlus/2019, managing Android and iOS, and more.

TMW02 How You Deploy Office ProPlus/2019 in the Enterprise Successfully?
Intermediate / Advanced
Erwin Derksen
Wednesday, November 20, 8:00 – 9:15am
Office is one of the applications that is used all day. I will take you on a journey reviewing the next upgrade of Office. How do you approach such a migration? Which tools do you use? What are the pitfalls and how do you avoid them? Click-To-Run or MSI? How do you involve the end users? I have extensive experience in Office upgrades with schools and healthcare and will share my knowledge and expertise. After this session, you will approach your next Office migration much more confidently.
You will learn:
• How to deploy Click-To-Run Office the correct way
• Common issues experienced and solutions found
• Difference between proplus and 2019

TMW05 Managing Android and iOS in the Enterprise
Intermediate
Peter Daalmans
Wednesday, November 20, 9:30 – 10:45am
Enterprises are adopting the cloud more quickly than ever. This move comes with a transition of their IT and new challenges are introduced on how to secure their data on mobile devices in a world where Microsoft rules the cloud, but not the mobile ecosystem.
During this session you will learn options that can bring Intune to secure your data in the cloud and on-prem while minimizing usability impact for the end user. Peter will share his experiences how he helped enterprises in recent projects.
You will learn:
• About the challenges managing iOS and Android
• How to manage iOS and Android the modern way
• From real life project experience at enterprises

TMW08 Everything You Need to Know to Manage Modern IT Apps Using Intune
Intermediate
Peter Daalmans
Wednesday, November 20, 2:00 – 3:15pm
Managing Windows 10 devices in a modern way is really different than managing them in the traditional way. The story around managing apps for Windows 10 can be a bit confusing, for a long time there is support for MSI, the Microsoft App Store and the Microsoft Store for Business. In the last year, two new options where introduced, support for more complex app deployment via the App Wrapping Tool and support for MSIX.
You will learn:
• What’s new in Intune for Windows 10 app support
• How and when to use native MSI
• How and when to use MSIX or the App Wrapping tool

TMH04 How to Get Your Cloud Services Secured with Intune and Azure AD
Intermediate
Peter Daalmans
Thursday, November 21, 9:30 – 10:45am
This session will give you guidelines, tips and tricks and notes from the field on how to execute a successful Proof Of Concept within your company.
You will learn:
• How to setup and sync your identities to Azure AD
• How to protect your identities in Azure AD
• How to use Conditional Access to secure Office 365
• How to use Microsoft Intune to secure your apps and data
• How to manage your devices in a modern way
• How to use Graph API to automate your POC rollout
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- Dave Kawula
  Principal Consultant, TriCon Elite Consulting
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- Kurt Mackie
  Senior News Producer, Redmondmag.com

TECHMENTOR CONFERENCE SPEAKERS

- Émile Cabot
  MVP System Center Cloud and Datacenter Management
- Jeffery Hicks
  IT infrastructure Consultant
- Cristal Kawula
  President, TriCon Elite Consulting
- Petri Paavola
  Yodamitti Oy
- Ronni Pedersen
  Microsoft MVP: Enterprise Mobility
  Freelance Cloud Architect
- Ricky Pullen
  Program Manager, Identity Engineering, Microsoft
- Swetha Rai
  Program Manager II - Azure Active Directory, Microsoft
- Stephen Rose
  Marketing and Storytelling Lead, Microsoft 365 Team, Microsoft
- Panu Saukko
  Consultant / Trainer, ProTrainIT
- Michael Wiley
  Senior Premier Field Engineer, Microsoft
# Agenda-at-a-Glance

## Artificial Intelligence Live! Full Day Hands-On Lab: Sunday, November 17, 2019

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:15 AM</td>
<td>Registration • Coffee and Morning Pastries</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>AIS01 Hands-On Lab: Build Your Own A.I. Powered Robot - Henk Boelman</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>Pre-Conference Registration - Royal Pacific Resort Conference Center</td>
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</tbody>
</table>

## Artificial Intelligence Live! Pre-Conference Workshop: Monday, November 18, 2019

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>7:00 AM</td>
<td>Registration • Coffee and Morning Pastries</td>
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<tr>
<td>8:30 AM</td>
<td>AIM01 Workshop: Cloud Scale Machine Learning (Hands-On) - Seth Juarez &amp; Cassie Breviu</td>
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<tr>
<td>8:30 AM</td>
<td>AIM02 Workshop: Big Data and Machine Learning with Hadoop, Spark, and SQL Server 2019 - Andrew Brust</td>
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<tr>
<td>6:30 PM</td>
<td>Dine-A-Round Dinner @ Universal CityWalk - 6:30pm - Meet at Conference Registration Desk to walk over with the group</td>
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## Artificial Intelligence Live! Day 1: Tuesday, November 19, 2019

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>9:15 AM</td>
<td>AIT01 Make Your App See, Hear and Think with Cognitive Services - Roy Cornelissen</td>
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<tr>
<td>10:30 AM</td>
<td>Networking Break • Visit the EXPO - Pacifica 7</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>LIVE! 360 KEYNOTE: The Power of Real World DevOps - Jessica Deen, Azure Avenger, Microsoft &amp; Abel Wang, Senior Cloud Developer Advocate, Microsoft</td>
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<tr>
<td>12:00 PM</td>
<td>Lunch • Visit the EXPO</td>
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<tr>
<td>1:30 PM</td>
<td>Dessert Break • Visit the EXPO</td>
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<tr>
<td>1:30 PM</td>
<td>AIT03 Fast Focus: Personal Assistants vs. Bots - Brian Randell</td>
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<tr>
<td>2:00 PM</td>
<td>AIT04 Fast Focus: The Sunny Side of AI - Henk Boelman</td>
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<tr>
<td>2:00 PM</td>
<td>AIT05 Fast Focus: AR vs. VR vs. MR - What Does it All Mean? - Nick Landry</td>
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<tr>
<td>2:20 PM</td>
<td>Networking Break • Visit the EXPO - Pacifica 7</td>
</tr>
<tr>
<td>4:15 PM</td>
<td>AIT07 Did You Know Cognitive Services Could Do This? A Computer Vision Quest - Andreas Erben</td>
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<tr>
<td>4:15 PM</td>
<td>AIT08 AI and Analytics with Apache Spark on Azure Databricks - Andrew Brust</td>
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<tr>
<td>5:30 PM</td>
<td>AIT09 Bot Building 101 with the Microsoft Bot Framework - Brian Randell</td>
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<tr>
<td>5:30 PM</td>
<td>AIT10 Diving Into Deep Learning with Databricks - Ginger Grant</td>
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<tr>
<td>5:30 PM</td>
<td>Exhibitor Reception - Pacifica 7</td>
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Speakers and sessions subject to change.
### AGENDA-AT-A-GLANCE (continued)

<table>
<thead>
<tr>
<th>START TIME</th>
<th>END TIME</th>
<th>Bots</th>
<th>Data Science and Machine Learning</th>
<th>Internet of Things</th>
<th>Analytics</th>
<th>AI Application Development</th>
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</thead>
<tbody>
<tr>
<td>7:30 AM</td>
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<td></td>
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<tr>
<td>8:00 AM</td>
<td>9:15 AM</td>
<td>AIW01</td>
<td>An Introduction to HoloLens &amp; Mixed Reality for the Enterprise - Nick Landry</td>
<td>AIW02 Machine Learning 101 for Developers - Jen Underwood</td>
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<tr>
<td>9:30 AM</td>
<td>10:45 AM</td>
<td>AIW03</td>
<td>Building a Holographic AI Assistant with ASP.NET Bots, Natural Language, &amp; Mixed Reality - Nick Landry</td>
<td>AIW04 Getting Started with Azure Machine Learning Services - Henk Boelman</td>
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<tr>
<td>10:45 AM</td>
<td>11:30 AM</td>
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<td>Networking Break • Visit the EXPO - Pacifica 7</td>
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<td>11:30 AM</td>
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<td>LIVE! 360 KEYNOTE: To Be Announced</td>
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<td>12:30 PM</td>
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<td>Birds-of-a-Feather Lunch</td>
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<tr>
<td>2:00 PM</td>
<td>3:15 PM</td>
<td>AIW05</td>
<td>Practical Internet of Things for the Microsoft Developer - Eric D. Boyd</td>
<td>AIW06 DevOps for Artificial Intelligence, the Road to Production - Henk Boelman</td>
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<td>3:15 PM</td>
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<td>4:00 PM</td>
<td>5:15 PM</td>
<td>AIW07</td>
<td>The Edge of Tomorrow. Use Visual Studio Code and Raspberry Pi to Create IoT Edge Solutions - Nicholas McCallum</td>
<td>AIW08 Visualization Best Practices for Machine Learning Applications - Jen Underwood</td>
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Speakers and sessions subject to change
## Agenda-at-a-Glance (continued)

### Artificial Intelligence Live! Day 3: Thursday, November 21, 2019

<table>
<thead>
<tr>
<th>Start Time</th>
<th>End Time</th>
<th>Session Title</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>7:30 AM</td>
<td>8:00 AM</td>
<td>Registration • Coffee and Morning Pastries</td>
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<tr>
<td>8:00 AM</td>
<td>9:15 AM</td>
<td>AIH01 Machine Learning the .NET Way - Bri Achtman</td>
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<tr>
<td>9:30 AM</td>
<td>10:45 AM</td>
<td>AIH03 Demystifying User Management for Voice Apps - Heather Downing</td>
<td>AIH04 Launching A Data Science Project: Cleaning Is Half the Battle - Kevin Feasel</td>
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<tr>
<td>11:00 AM</td>
<td>12:00 PM</td>
<td>ARTIFICIAL INTELLIGENCE LIVE! PANEL DISCUSSION: AI: For Data Scientists or Developers?</td>
<td>Andrew Brust (moderator), Kevin Feasel, Raj Krishnan, Heather Downing</td>
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<tr>
<td>12:00 PM</td>
<td>1:00 PM</td>
<td>Lunch - Oceana Ballroom</td>
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<tr>
<td>1:00 PM</td>
<td>2:15 PM</td>
<td>AIH06 Google vs. Alexa: Battle of the Bots - Heather Downing</td>
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<tr>
<td>2:30 PM</td>
<td>3:45 PM</td>
<td>AIH07 To Be Announced</td>
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<tr>
<td>4:00 PM</td>
<td>5:00 PM</td>
<td>Next? Live! 360 Networking Event</td>
<td>Bradley Ball, Andrew Brust, Ben Curry, Peter Daalmans, Joseph D’Antoni, Marcel de Vries, Billy Hollis, Dave Kawula, Raj Krishnan, Thomas Sami Laiho, LaRock, Vishwas Lele, Rockford Lhotka, Karen Lopez, Matthew McDermott, Agnes Molnar, Brian Randell, Panu Saukko, Jen Stirrup, &amp; Alex Thissen</td>
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### Artificial Intelligence Live! Post-Conference Workshop: Friday, November 22, 2019

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<tr>
<th>Start Time</th>
<th>End Time</th>
<th>Session Title</th>
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<tr>
<td>7:30 AM</td>
<td>8:00 AM</td>
<td>Registration • Coffee and Morning Pastries</td>
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<tr>
<td>8:00 AM</td>
<td>5:00 PM</td>
<td>AIF01 Workshop: From Business Intelligence to Business Analytics with the Microsoft Data Platform - Jen Stirrup</td>
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Speakers and sessions subject to change
FULL DAY HANDS-ON LABS

These instructor-led, pre-conference Hands-On Labs offer attendees intensive in-depth training before the conference officially begins. Choose from eight extended 8-hour labs and take advantage of in-person instruction as well as collaboration with peers.

Attendance for each Hands-On Lab is limited, so be sure to sign up early for these special bring your own laptop pre-conference HOLs.

AIS01 Hands-On Lab: Build Your Own A.I. Powered Robot
Introductory / Intermediate
HENK BOELMAN
Sunday, November 17, 9:00am – 6:00pm
The need to jump on the AI track is more relevant than ever. With the commodity of hardware and the computing power of the Cloud, Artificial Intelligence is at our fingertips and waiting to be implemented in new innovative solutions.

This hands-on workshop gives a quick start in the world of AI by combining Windows IoT, a Raspberry Pi with some sensors and the power of Microsoft Cognitive Services. You will learn how a Raspberry Pi works, dive into topics like face identification, language understanding, and how to train your own vision model. The workshop is very hands-on and at the end, you will have made a robot that can talk and uses its vision and ears to interact with its surroundings. The bot will run on a Raspberry Pi powered by Windows IoT. The bot will be able to see, hear, and talk using different Cognitive Services.

What you will learn:
• Windows IoT
• Raspberry Pi with sensors
• Face detection API
• Language Understanding
• Custom Vision

After the hands-on workshop, you will know what Cognitive Services are and have hands-on experience implementing them in a program. You can connect sensors to the Raspberry and use their capabilities in your programs.

Who should attend:
This hands-on workshop is for you if you:
• Want to learn what all the different Cognitive Services are and how to use them
• Want to learn about how Raspberry Pi works and write software for it
• Want to play around with hardware and like connecting wires and sensors

What to bring:
• Bring your laptop running the latest Windows 10 and Visual Studio 2017. You will need an Azure subscription to activate the Cognitive Services APIs, if you don’t have one please create one before the workshop.
• Read this before attending: https://github.com/hnky/Workshop-AI-Pre

The AI revolution is coming, and you can be part of it!

WORKSHOPS

Choose from a wide range of content and topics by expert presenters with Live! 360 Orlando’s Pre- and Post-Conference full-day workshops.

AIM01 Workshop: Cloud Scale Machine Learning (Hands-On)
Intermediate
SETH JUAREZ & CASSIE BREVIIU
Monday, November 18, 8:30am – 5:30pm
This workshop is designed to get attendees up to speed on the rudiments of modern machine learning at cloud scale. Attendees can expect to learn the following:
• An Overview of Machine Learning
• Popular Machine Learning Frameworks
• Azure Machine Learning service
• Experimentation, Model Management, and Deployment
• Hyperparameter optimization, automatic machine learning, and the machine learning pipeline

This one-day hands-on workshop will be divided into 4 distinct segments with a lecture and lab portion.

1. An Overview of Machine Learning
This section will introduce the foundational concepts of machine learning primarily focusing on techniques for supervised learning. This section will delve into practical approaches for creating local machine learning models using both scikit-learn and TensorFlow.

Hands on with scikit-learn and TensorFlow
This hands-on lab includes setting up a local development environment as well as two machine learning problems attendees will solve with scikit-learn and TensorFlow.

2. Understanding Azure Machine Learning service
This portion of the workshop will introduce attendees to the basics of Azure Machine Learning service. Concepts such as a workspace, compute environment, data stores, experiments, etc. will be introduced in preparation for a machine learning experiment in the cloud.

Your First Machine Learning Experiment in the Cloud
The goal of this lab is to create an Azure Machine Learning (AML) workspace and compute environment in order to run an experiment in the cloud. Attendees will essentially be lift-and-shifting Hour 2 code and running it in the cloud.

3. Advanced Experimentation Techniques in Azure Machine Learning service
This section of the workshop will delve into three advanced techniques available for experimentation in Azure Machine Learning service: hyperparameter tuning, automatic machine learning, and pipelines. The first two features are designed to create agility in the data science process by automating several repetitive tasks associated with starting a new project. The last feature (pipelines) is designed to simplify complex multi-step machine learning scenarios by discretizing disparate steps without having to sacrifice speed and efficiency.
Hands-on Advanced Experimentation in Azure Machine Learning service
The lab portion will contain exercises designed to help attendees better understand automatic hyperparameter tuning, automatic machine learning, and Azure Machine Learning pipelines.

4. The Intersection of Data Science and DevOps
This section will introduce attendees to 3 features in Azure Machine Learning service designed to manage the artifacts associated with machine learning: model, image, and service management. Attendees will also learn what to do when things change. What should happen when data has changed and machine learning models no longer work? What if there’s a better machine learning model for the problem?

Automating your Machine Learning Pipeline in the Cloud
The goal of this hands-on lab is to promote machine learning models created during the workshop all the way to production.

Attendee Requirements:
You must provide your own laptop computer for this hands-on lab workshop.

AIM02 Workshop: Big Data and Machine Learning with Hadoop, Spark, and SQL Server 2019
Intermediate
ANDREW BRUST
Monday, November 18, 8:30am – 5:30pm
The hype around Big Data began almost a decade ago – and, over the last four years or so, the excitement around machine learning (ML) and artificial intelligence (AI) has joined it. But now the hype is settling down, and the technologies are becoming more relevant to Microsoft platform practitioners, as the tech increasingly makes its way into the Azure cloud platform and even into SQL Server.

In this workshop, we’ll explore the relevant Big Data and ML/AI technologies, and the services and platforms in which they surface. We’ll start with Big Data’s poster child, Apache Hadoop, which has been around on the Azure HDInsight service for years now. We’ll quickly move on to the Big Data and machine learning-savvy Apache Spark, which HDInsight on-boarded some time ago, and which Azure Databricks is built on exclusively. Then we’ll look at how to stay on-premises and work with SQL Server 2019’s implementation of Spark and elements of Hadoop, as well as the capabilities of SQL Server Machine Learning Services.

You’ll learn all about Big Data, machine learning, Hadoop and Spark – including the commonalities of using those technologies across HDInsight, Databricks, and SQL Server 2019, and the unique capabilities of them in each environment. You’ll also see how to use SQL Server ML services, on its own or in combination with Hadoop, Spark and other technologies. There’s no prior knowledge of Big Data, AI or ML required for this workshop – just a working knowledge of SQL Server or other databases, and a passion for learning the latest in data analytics and machine learning/Al.

You will learn:
• The fundamentals of Big Data and AI/machine learning
• The basics of Apache Hadoop and Apache Spark
• About leveraging newer tools like Visual Studio Code and Azure Data Studio, as well as Jupyter and Databricks notebooks, to get your analytics, AI and ML work done

AIF01 Workshop: From Business Intelligence to Business Analytics with the Microsoft Data Platform
Intermediate
JEN STIRRUP
Friday, November 22, 8:00am – 5:00pm
In this one-day workshop, the objective is to move from Business Intelligence to Business Analytics with the Microsoft Data Platform technologies such as SQL Server, Azure SQL Server, R, Python, and Power BI.

The emphasis is on real-life scenarios with takeaways that you can apply as soon as you go back to the office.

Here are the topics we’ll cover:
• Introduction to Analytics with the Microsoft Data Platform
• Essential Business Statistics for Analytics Success: the important statistics that business users use often in business spheres, such as marketing and strategy.
• Business Analytics for your CEO – what information does your CEO really care about, and how can you produce the analytics that she really wants? In this session, we will go through common calculations and discuss how these can be used for business strategy, along with their interpretation.
• Analytics for Marketing – what numbers do they need, why, and what do they say? In this session, we will look at common marketing scenarios for analytics, and how they can be implemented with the Microsoft Data Platform.
• Analytics for Sales – what numbers do they need on a sales dashboard, why, and what do they say? In this session, we will look at common sales scenarios for analytics such as forecasting and ‘what if’ scenarios, and how they can be implemented with the Microsoft Data Platform.
• Analytics with Python – When you really have difficult data to crunch, Python is your secret Power tool.
• Business Analytics with Big Data – let’s look at Big Data sources and how we can do Big Data Analytics with tools in Microsoft’s Data Platform.

AI APPLICATION DEVELOPMENT

Artificial Intelligence is changing how you build apps. Technologies like advanced machine learning, natural language processing, and more, mean you can build truly “smart apps”. With today’s accelerated development cycles, you need to be ready to build the next generation of self-learning applications.

In this track, you’ll find talks on interacting with intelligent agents like Alexa and Google Assistant, Microsoft’s Cognitive Services, Azure Machine Learning, Databricks and DevOps for AI.
ARTIFICIAL INTELLIGENCE LIVE! SESSION DESCRIPTIONS BY TRACK (continued)

**AIT01 Make Your App See, Hear and Think with Cognitive Services**
*Introductory / Intermediate*
ROY CORNELISSEN
Tuesday, November 19, 9:15 – 10:30am
Artificial intelligence used to be something super complex but Microsoft is making it simple and available for any developer to integrate it in their apps. In this session we’ll look at how you can use features like computer vision, speech recognition and other AI features of cognitive services in your Xamarin Mobile apps. The session will be packed with hands on demos and live coding. After this session you are ready to implement these cool features in your own apps yourself!
You will learn:
- About the possibilities of the Microsoft Cognitive Services platform
- How to use cloud ML services in your mobile apps
- How to take an ML model offline

**AIT05 Fast Focus: AR vs. VR vs. MR - What Does it All Mean?**
*Introductory*
NICK LANDRY
Tuesday, November 19, 2:00 – 2:20pm
For over 40 years, we have been content with using a keyboard and monitor to interact with computers. The mouse, touch screen, and other input devices have transformed how humans interact with computers; but 2D screens of all sizes – from 1” to 80” – have all always been the de facto method to perceive the primary output from our microcomputers and devices. Until now. Since 2016 the technology world has seen the introduction of modern consumer devices for Virtual Reality (VR) – including Oculus Rift, HTC Vive, Samsung Gear VR, Google DayDream – making their way into the mainstream public. On the enterprise side of things, the Microsoft HoloLens & Magic Leap One merge the real world with the virtual via holograms to create advanced Mixed Reality (MR) scenarios. Mixed Reality covers a full range of devices and experiences from Augmented Reality (AR) to VR. This session is your fast-paced introduction to the landscape of VR, AR & MR (together known as XR) from the perspective of software developers. We’ll review many of the hardware & platform options, their respective SDKs, and where to find resources to get started. Mixed Reality and Virtual Reality projects are no longer a dream. The technology is here. The hardware is here. The tools and SDKs are here. Come learn about the opportunities and how to get started building experiences beyond anything you ever imagined.
You will learn:
- The principles of Virtual Reality, Augmented Reality & Mixed Reality
- About the various VR, AR & MR platforms – like Oculus Rift & Windows Mixed Reality
- About the resources available to get started with various XR platforms

**AIT07 Did You Know Cognitive Services Could Do This? A Computer Vision Quest**
*Intermediate*
ANDREAS ERBEN
Tuesday, November 19, 2:45 – 4:00pm
Microsoft Azure Cognitive Services offer a rich set of features to analyze arbitrary images, detect brand logos, train custom models, index videos, transcribe text in images, and much more. In this session, attendees will see how to combine and use some capabilities of Microsoft Azure Cognitive Services to analyze images, and possibly unexpected ways.
With the power of the Intelligent Cloud, Computer Vision will extract information from a set of images, this information then can be used to automatically generate a specialized Custom Vision model that finally can be used on the intelligent edge devices to annotate the real world in real time.
Hands-on demos provide actionable starting points for both developers and decision makers to incorporate democratized deep learning in their own applications. The shown code samples will enable developers to start building right away.
You will learn:
- About the capabilities of democratized Computer Vision products in Microsoft’s Cloud
- About the APIs of Cognitive Services Computer Vision Custom Vision
- How to combine democratized Computer Vision AI products to solve new scenarios

**AIW01 An Introduction to HoloLens & Mixed Reality for the Enterprise**
*Introductory*
NICK LANDRY
Wednesday, November 20, 8:00 – 9:15am
Developing Mixed Reality (MR) experiences for HoloLens & Windows Mixed Reality headsets sounds fun in theory, but how does this translate to the real-world? This session is designed to assist teams who are exploring their first MR projects by drawing from lessons learned in the field when working on customer projects for HoloLens & MR. We’ll discuss the MR opportunity for .NET developers, what role they can play in MR development, and what an ideal MR development team looks like in comparison to a typical enterprise dev team. We’ll also look at how MR solutions can be integrated with cloud services and other systems to create real enterprise solutions. Lastly, we’ll explore how you can execute your first MR projects as hackfests for fast results, and we’ll talk about design considerations, development tips & tricks, and common pitfalls to avoid. Applications in Mixed Reality span a wide range of industries, from construction, architecture and manufacturing, to healthcare, pharma, education and more. Regardless of what projects you work on today, come learn how Mixed Reality can open a new chapter for your company and your career.
You will learn:
- About the high-level principles of Mixed Reality, how the HoloLens & immersive headsets work, and how .NET developers can bring their skills to Mixed Reality
AIW03 Building a Holographic AI Assistant with ASP.NET Bots, Natural Language, & Mixed Reality

Advanced

NICK LANDRY

Wednesday, November 20, 9:30 – 10:45am

Take your customers’ bots beyond Skype, Slack, Microsoft Teams and Facebook and bring them into the real world with Mixed Reality. Why simply type-chat with a bot when you could actually look at them, talk to them and listen to their answers? HoloBot is an open source reusable Windows Mixed Reality Unity project for Microsoft HoloLens that acts as a holographic client for a chatbot. HoloBot has already been used in the pharmaceutical industry at Merck where lab scientists can lookup procedure documents using voice and gestures, and review those documents as holograms visible in their work space. This session is a deep dive into this 3D app that lets users interact with a 3D avatar using natural language thanks to multiple technologies, including Cognitive Services Speech recognition & synthesis, Microsoft Bot Framework, LUIS, Unity, Windows Mixed Reality, and more.

You will learn:
- How to build an interactive avatar in 3D using Mixed Reality, Speech Recognition and Text-to-Speech
- How to build a custom Bot Framework channel using the Direct Line API
- How to build a speech-enabled conversational bot that is optimized for Mixed Reality integration

AIW01 Machine Learning the .NET Way

Introductory

BRI ACHTMAN

Thursday, November 21, 8:00 – 9:15am

ML.NET is a free, cross-platform, and open source machine learning framework for .NET developers. It is an extensible platform that powers Microsoft products & services like Windows Hello, Bing Ads, PowerPoint Design Ideas, and more. This session focuses on what’s new with ML.NET and through a variety of demos describes how to build custom ML models like issue classification, object detection, and recommender systems from scratch, using both the API and the new Visual Studio tooling with AutoML support. This session is a great way to get a jump start with Machine Learning using ML.NET!

You will learn:
- About ML.NET and how it works
- What kind of machine learning scenarios are supported in ML.NET
- How to build a machine learning model with ML.NET

ANALYTICS

As important as predictive machine learning models can be, you can’t have Artificial Intelligence without straight analytics. Data preparation, visualization and analysis are all critical to the AI process and they’re super-important in their own right, too. Sessions in this track will help you get oriented in both commercial and open source analytics technologies, including Power BI, Azure’s analytics services and Apache Spark.

AIW08 Visualization Best Practices for Machine Learning Applications

Introduction

JEN UNDERWOOD

Wednesday, November 20, 4:00 – 5:15pm

Artificial intelligence (AI) and machine learning can deliver unprecedented value when infused into business processes and apps. Unfortunately, predictive insights often get lost in translation. From deciphering the meaning of unfamiliar terms and complex scientific charts, the choices developers make are crucial for making machine learning results useful. In this session, we introduce and explore a wide variety of machine learning visualizations. We will also discuss best practices developers can use when embedding machine learning into apps.

ARTIFICIAL INTELLIGENCE LIVE! SESSION DESCRIPTIONS BY TRACK (continued)
You will learn:
• Common machine learning metrics and charts
• Human interpretation of machine learning results
• 3 Tips to properly visualize and simplify translation

### AIT02  Machine Learning with Power BI
**Intermediate**

**RAJ KRISHNAN**

**Thursday, November 21, 8:00 – 9:15am**

Power BI continues to evolve as a powerful data visualization tool. In this session you will learn how to leverage the enhanced capabilities of Power BI to use cognitive services by invoking functions to call text analytics and other cognitive services; Run R and Python scripts within Power BI to visualize data using marketplace visuals and R scripts. You will also learn about the new Automated Machine Learning feature that is in preview.

**You will learn:**
• How to use cognitive services within Power BI
• How to do statistical analysis using R and R visuals in Power BI
• How to use Automated Machine Learning using Power BI

### BOTS

Chat bots are a new UI that your customers are ready to use. Just as building a Windows UI is different from building a Web UI, building good chat bots requires thought and planning. You then have vendors providing frameworks to make it easy to build and host your bots whether their focused-on commerce, the Enterprise, IoT, or just information. In this track you’ll find sessions on the Microsoft Bot Framework, Google vs. Alexa and building a Facebook Messenger bot with Twilio Autopilot.

### AITO3  Fast Focus: Personal Assistants vs. Bots
**Introductory**

**BRIAN RANDELL**

**Tuesday, November 19, 1:30 – 1:50pm**

Vendors like Microsoft, Apple, Amazon, and Google are all providing platforms for bots and personal assistants. But how do you build your own? Is there a difference? In 20 minutes, Brian will answer these questions and show you some quick examples with code in C# to get you started.

**You will learn:**
• What a bot is
• What a personal assistant is
• How you can develop for them

### AIT09  Bot Building 101 with the Microsoft Bot Framework
**Introductory**

**BRIAN RANDELL**

**Tuesday, November 19, 4:15 – 5:30pm**

In this session, Brian will bring you up to speed on the latest work Microsoft has done with the Bot Framework. You’ll learn how to create your bot from scratch using Visual Studio 2019 and the current release of the Microsoft Bot Framework. You’ll learn how to structure code to process conversations with a human, how to debug locally with the Bot Framework Emulator and how to ultimately deploy it to Azure.

**You’ll learn:**
• What languages you can use to build Bots with the Microsoft Bot Framework
• How to design a bot
• How to build and deploy a bot with C# to Azure

### AIH06  Google vs. Alexa: Battle of the Bots
**Introductory**

**HEATHER DOWNING**

**Thursday, November 21, 1:00 – 2:15pm**

Why choose? Support them all! This code-centric talk demonstrates the approach you need to centralize your app logic and handle multiple voice interface ecosystems at once.

We will walk through code examples for Alexa and Google Assistant integration, discovering the pros and cons of each in detail.

**You will learn:**
• How to identify the differences between the Amazon and Google platforms that a developer has to keep in mind
• Common development terminology for voice development in general
• Basic code samples in C# / ASP.NET to interact with Alexa and Google simultaneously

### DATA SCIENCE AND MACHINE LEARNING

The Data Science and Machine Learning (ML) track is central to the whole conference. This subject matter covers the very basis of predictive analytics, the mechanics of designing predictive models and techniques for managing them in production. The workshops and sessions in this track will help both practicing and emerging data scientists learn about core data science concepts, techniques, languages, services and tools.
ARTIFICIAL INTELLIGENCE LIVE! SESSION DESCRIPTIONS BY TRACK (continued)

**AIT04 Fast Focus: The Sunny Side of AI**
**Introductory**
HENK BOELMAN  
**Tuesday, November 19, 1:30 – 1:50pm**
After a tremendous age of innovation and research in the AI field, we are moving towards the age of appliance. In this fast-paced-skeptical-funny talk, Henk will take you along on a journey of the biggest accomplishment in the world of AI and look back on how we got where we are today. Join this talk for a glimpse of AI history and future.
You will learn:
- About the history of AI
- About the future of AI
- About the current state of AI

**AIT06 Fast Focus: AutoML Crash Course**
**Introductory**
ANDREW BRUST  
**Tuesday, November 19, 2:00 – 2:20pm**
Until recently, if you wanted to build machine learning (ML) models, you needed a strong background in data science, or the ability to hack your way through more advanced parts of the ML/Artificial Intelligence (AI) workflow. Understanding ML frameworks, the differences between algorithms within them, and optimization of their so-called “hyperparameters,” has been tough – at times even impenetrable. Enter automated machine learning (AutoML) technology, which automates algorithm selection and hyperparameter tuning and, in the case of Microsoft’s AutoML, does so in a fashion friendly to .NET developers and other Microsoft technology pros.

In this Fast Focus presentation, we’ll cover the basics of AutoML (and the algorithm/hyperparameter concepts underlying it), then summarize the vendors and offerings in the broader AutoML market. Next, we’ll drill down on Microsoft AutoML and how it surfaces in .NET, Visual Studio, Azure Machine Learning and even Power BI.

**AIT08 Al and Analytics with Apache Spark on Azure Databricks**
**Intermediate**
ANDREW BRUST  
**Tuesday, November 19, 2:45 – 4:00pm**
Open source technology Apache Spark as the analytics and machine learning platform of choice for many companies. While Spark has manifested in numerous parts of the Microsoft stack, including SQL Server 2019, Microsoft’s go-to Spark service is Azure Databricks.

The service, from Microsoft and Databricks (the company founded by Spark’s creators), is a versatile one, geared towards analytics, data engineering and data science. Azure Databricks lets developers work in notebooks, offline, interactively with running clusters, or schedule them as production jobs that provision Spark clusters on-demand.

This session will cover the concepts, service mechanics, and code necessary for you to do analytics and machine learning on Azure Databricks, and integrate it with other Microsoft cloud services and on-premises technologies.

You will learn:
- About the fundamentals of Apache Spark, Spark SQL and Spark MLlib
- How to use Databricks notebooks
- How to manage clusters and jobs
- How to integrate Azure Databricks with blob storage and Azure Data Lake Store (ADLS)
- How to write Python code for both analytics and machine learning

**AIT10 Diving Into Deep Learning with Databricks**
**Introductory**
GINGER GRANT  
**Tuesday, November 19, 4:15 – 5:30pm**
Databricks is rapidly becoming one of the most common tools used to analyze data for machine learning, especially if the desired solution algorithm is very intensive, like those used in deep learning. The demos in this session will walk through what is required to create a deep learning solution in Databricks using Jupyter Notebooks, Python and Tensorflow to create a deep understanding of a dataset to create a solution which can be scheduled to run at a given time or scaled to handle big data as part of the solution in a real-world environment with multiple developers working on the project with integrated source control.

You will learn:
- Why the collaborative work features and management improve the process of creating, managing, and implementing a deep learning solution in Databricks as compared to other tools
- The steps needed to create a solution and how the process can be implemented using the same release practices deployed in more traditional development environments.
- How through examples, when deep learning should be considered and which scenarios are best suited for Tensorflow

**AIW02 Machine Learning 101 for Developers**
**Introductory**
JEN UNDERWOOD  
**Wednesday, November 20, 8:00 – 9:15am**
Machine learning today is easy enough for developers of all skill levels to use. From building intelligent applications to monitoring churn or predicting service downtime, there are countless use cases you can explore to get
started. In this demo intensive session, we will walk through how machine learning algorithms work using Python. Participants will be introduced to fundamental machine learning terms, concepts, techniques and tools. We will cover the entire machine learning life-cycle from selecting the right types of problems to solve to preparing data properly, building models, understanding results, evaluating model performance, and deploying predictive models into apps.

You will learn:
• About machine learning project life-cycle
• How to build, evaluate and deploy machine learning models
• How to use models in apps and reports

AIW04 Getting Started with Azure Machine Learning Services

Introductory / Intermediate
HENK BOELMAN
Wednesday, November 20, 9:30 – 10:45am
With machine learning becoming more and more an engineering problem, the need to track, work together, and easily deploy ML experiments with integrated CI/CD tooling is becoming more relevant than ever. In this session, we take a deep-dive into the DevOps process that comes with Azure Machine Learning service, a cloud service that you can use to track as you build, train, deploy, and manage models. We zoom into how the data science process can be made traceable and deploy the model with Azure DevOps to a Kubernetes cluster.

At the end of this session you will have a good grasp of the technological building blocks of Azure machine learning services and know how to bring a machine learning project safely into production.

You will learn:
• How to train a TensorFlow model using Azure Machine Learning Service
• How to deploy a model using Azure DevOps to a Kubernetes cluster
• How you work together as a team to bring an intelligent application to production

AIW06 DevOps for Artificial Intelligence, the Road to Production

Introductory
HENK BOELMAN
Wednesday, November 20, 2:00 – 3:15pm
With machine learning becoming more and more an engineering problem the need to track, work together, and easily deploy ML experiments with integrated CI/CD tooling is becoming more relevant than ever. In this session, we take a deep-dive into the DevOps process that comes with Azure Machine Learning service, a cloud service that you can use to track as you build, train, deploy, and manage models. We zoom into how the data science process can be made traceable and deploy the model with Azure DevOps to a Kubernetes cluster.

AIH04 Launching A Data Science Project: Cleaning Is Half the Battle

Introductory
KEVIN FEASEL
Thursday, November 21, 9:30 – 10:45am

There’s an old adage in software development: Garbage In, Garbage Out. This adage certainly applies to data science projects: if you simply throw raw data at models, you will end up with garbage results. In this session, we will build an understanding of just what it takes to implement a data science project whose results are not garbage. We will the Microsoft Team Data Science Process as our model for project implementation, learning what each step of the process entails. To motivate this walkthrough, we will see what we can learn from a survey of data professionals’ salaries.

You will learn:
• The steps involved in launching a data science process
• Insights on data cleansing and feature engineering strategies.
• About the different classes of algorithms available, as well as tips on when to use them

AIH06 Data Orchestration and Data Flow with Azure Data Factory

Introductory
RAJ KRISHNAN
Thursday, November 21, 1:00 – 2:15pm

The data flow preview feature in Azure Data Factory provides additional capabilities that will elevate ADF to a tool that can not only orchestrate data movement, but also provide many data transformation capabilities. In the past this required SSIS integration runtime or other tools. In this session we will explore the data flow transformation feature and other data orchestration enhancements that continue to make ADF a very powerful data integration tool.

You will learn:
• About the new features like data flow that makes Azure Data Factory a very powerful data integration tool
• How to build data movement and data transformation pipeline using Azure Data Factory
• How to integrate other tools as part of data orchestration
AIH08  The 8 “C’s” of Artificial Intelligence – Being Successful with AI  
Intermediate  
JEN STIRRUP  
Thursday, November 21, 2:30 – 3:45pm  
How do you make AI relevant and actionable for your organization? In this session, we will explore visioning and executing AI successfully AI Strategy for your business using the 8 ‘C’s of Artificial Intelligence:  
• Customers - understand and improve customer experience and engagement  
• Compete - get ahead of the competition  
• Capitalize - increase sales, productivity benefits  
• Create - ethics, accessibility, creativity  
• Costs - manage, measure, minimize and mitigate risks  
• Challenges - Best Practices and when to break them  
• Calculate - quantify and maximize in the AI Information Economy  
• Cognition - understand and leverage cognitive technology Business Transformation and AI  
In this session, we will explore methods for success with AI, using Microsoft technologies to show the concepts.

INTERNET OF THINGS

When you think about AI, you often think about devices and how they enhance the experience and feeds the data lakes. With billions of physical devices out there, the Internet of Things (IoT) promises to a critical area for many companies. In this track you’ll find sessions that help you understand how IoT fits in to the Microsoft developer’s stack and how you build IoT solutions on the edge of your network and the Internet.

AIW05  Practical Internet of Things for the Microsoft Developer  
Introductory  
ERIC D. BOYD  
Wednesday, November 20, 2:00 – 3:15pm  
Internet of Things (IoT) is a hot tech buzzword right now, and it ranges from wearables like the Fitbit to home automation like Nest and WeMo. But is this trend limited to a small set of companies and hobbyist hackers, or is it something broader and applicable to the masses?  
In this session, Azure MVP Eric D. Boyd will give you a practical view of IoT starting by defining what IoT is, and the various components that are required and optional components that can enhance IoT solutions. We will then walk through how to get started creating IoT devices, sensors and clients with Windows.  
While devices are fun to build and play with, the most interesting piece of IoT is the backend and the data. As a result, next we will create a backend for working with IoT data at mass scale using Azure’s IoT services, and using that data to build valuable analytics and insight.  
Finally, Eric will present a framework for identifying and evaluating IoT opportunities in your organizations.

You will learn:  
• How to install and configure the necessary extensions to create IoT Edge Solutions with Visual Studio Code  
• How to build a Raspberry Pi IoT Edge device  
• How to deploy an IoT Edge solution to a Raspberry Pi

AIW07  The Edge of Tomorrow. Use Visual Studio Code and Raspberry Pi to Create IoT Edge Solutions  
Intermediate / Advanced  
NICHOLAS MCCOLLUM  
Wednesday, November 20, 4:00 – 5:15pm  
In many environments live connections to the internet are either not available or prohibited for security reasons. This situation impedes direct connectivity to the cloud for creating IoT solutions. To solve this problem many customers are turning to edge solutions that will allow them to collect and process device data at the edge and later forward it to a cloud solution. Azure IoT Edge provides a comprehensive solution in this space that extends the capabilities of Azure IoT Hub. In this session we will examine how to build IoT Edge solutions using Visual Studio Code and deploy an IoT Edge solution to a Raspberry Pi edge device.

You will learn:  
• About account linking for Alexa and Google customers  
• How to track users inside your .NET app  
• How to handle security authentication for voice users
CONFERENCE CO-CHAIRS AND ADVISORY BOARD

CONFERENCE CHAIRS

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CEO and Founder,
Blue Badge Insights
Artificial Intelligence Live! Conference Co-Chair

Brian Randell
Partner, MCW Technologies
Artificial Intelligence Live! Conference Co-Chair

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Redmondmag.com

CONFERENC E SPEAKERS

Bri Achtman
Program Manager, .NET Team, Microsoft

Henk Boelman
Microsoft AI MVP & Cloud AI Architect

Andreas Erben
CEO Americas and CTO, Dena et and Industrial Holographics

Kevin Feasel
Predictive Analytics Manager, Channel Advisor

Artificial Intelligence Live! Conference Co-Chair

Ginger Grant
Principal Data Geek, Desert Isle Group

Seth Juarez
Cloud Developer Advocate, Microsoft

Nick Landry
Senior Software Engineer, Microsoft

Eric D. Boyd
Founder & CEO, responsiveX

Cassie Brevisu
Cloud Developer Advocate, Microsoft

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Sujatha Sagiraju
Jen Stirrup
Principal, Data Relish Ltd

Andrew Brust
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Artificial Intelligence Live! Conference Co-Chair

Roy Cornelissen
Lead Consultant, Xpirit

Raj Krishnan
Cloud Solution Architect, Microsoft

Jen Underwood
Founder, Impact Analytix, LLC

Heather Downing
Coder, Entrepreneur;
Passionate for the impossible

Register now at live360events.com/orlando
## AGENDA-AT-A-GLANCE

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<td>Registration • Coffee and Morning Pastries</td>
<td><strong>OST01</strong> Workshop: Quick Wins to Jump Start Your SharePoint Implementation - <em>Stacy Deere-Strole</em></td>
<td><strong>OST02</strong> Understanding Microsoft Search—What You Want to Know Now! - <em>Agnes Molnar</em></td>
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<td>8:30 AM - 5:30 PM</td>
<td>Dine-A-Round Dinner @ Universal CityWalk - 6:30:00 - Meet at Conference Registration Desk to walk over with the group</td>
<td><strong>OST03</strong> Mastering Modern Authentication and Authorization Techniques for SharePoint, Office 365 and Azure AD - <em>Eric Shupps</em></td>
<td><strong>OST04</strong> To Be Announced</td>
<td><strong>OST05</strong> Building Your First App with the Microsoft Graph (Office 365 APIs) - <em>Rob Windsor</em></td>
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<td><strong>OST05</strong> To Be Announced</td>
<td><strong>OST06</strong> Navigation: A Step Towards Success in SharePoint - <em>Stacy Deere-Strole</em></td>
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<td><strong>OST02</strong> Understanding Microsoft Search—What You Want to Know Now! - <em>Cathy Dew, Senior Program Manager, OneDrive and SharePoint Team, Microsoft</em></td>
<td><strong>OST03</strong> Fast Focus: 5 Tips to Make Teams Sticky - <em>Matt Wade</em></td>
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<td>9:15 AM</td>
<td><strong>OSW01</strong> Microsoft Flow for SharePoint Developers - Rob Windsor</td>
<td><strong>OSW02</strong> Creating a Security Plan for Office 365—The Blue Pill Session - Ben Curry</td>
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<td>9:30 AM</td>
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<td><strong>OSW03</strong> Taking User Profiles to New Heights! - Stacy Deere-Strole</td>
<td><strong>OSW04</strong> Managing Microsoft Teams: From Governance to Etiquette - Matt Wade</td>
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<td>LIVE! 360 KEYNOTE: To Be Announced</td>
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<td>12:30 PM</td>
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<td>Birds-of-a-Feather Lunch</td>
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<td><strong>OSW05</strong> An Introduction to Development with the SharePoint Framework (SPFx) - Rob Windsor</td>
<td><strong>OSW06</strong> A Real World Guide to Building Highly Available Fault Tolerant SharePoint Farms - Eric Shupps</td>
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<td>3:15 PM</td>
<td>4:00 PM</td>
<td>Networking Break • Visit the EXPO • Expo Raffle @ 3:30 p.m. - Pacifica 7</td>
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<tr>
<td>4:00 PM</td>
<td>5:15 PM</td>
<td><strong>OSW07</strong> Supercharge Your Business Productivity with Teams, Extensions, and SPFx - Bill Ayers</td>
<td><strong>OSW08</strong> Content Services in Office 365 - Agnes Molnar</td>
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<td>7:30 PM</td>
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<td><strong>END TIME</strong></td>
<td><strong>Office &amp; SharePoint Live! Day 3: Thurs, Nov 21</strong></td>
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<td><strong>OSH02</strong> Automating Business Process on Your Corporate Files Using OneDrive and Flow - Noorez Khamis</td>
<td><strong>OSH03</strong> Asynchronous JavaScript and TypeScript for SharePoint Developers - Rob Windsor</td>
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Speakers and sessions subject to change
OFFICE & SHAREPOINT LIVE! SESSION DESCRIPTIONS BY TRACK

WORKSHOPS
Choose from a wide range of content and topics by expert presenters with Live! 360 Orlando’s Pre- and Post-Conference full-day workshops.

**OSM01** Workshop: Quick Wins to Jump Start Your SharePoint Implementation
*Intermediate*

**STACY DEERE-STROLE**
Monday, November 18, 8:30am – 5:30pm
The determination of success vs. failure for all projects is whether or not what you have implemented is being utilized by the users. Better known as User Adoption! However, many wonder what they can do to make sure they’re giving the users what they want; what they didn’t know they needed but will make their job easier; and something I like to call the “Plus A Little” and/or the WOW Factor! Quick wins are identified as things that are quick to do, take very little time to implement (low cost), and have a HUGE impact within the organization. In this workshop we are going to explore and build out different features within your SharePoint (O365 & OnPrem) environment that will make your SharePoint implementation the Rock Star of all projects ever implemented.

**Topics covered include:**
- Promoted Links
- Corporate Directory
- Global Navigation
- Collaboration
- Search
- Automation
- Social
- Dashboards

**You will learn:**
- How to Keep up on changes
- About identifying and implementing quick wins
- About new features

---

**OSF01** Workshop: Six Easy Pieces - Microsoft 365 Extensions that Bring Maximum Business Benefit with Minimum Effort
*Introductory / Intermediate*

**BILL AYERS**
Friday, November 22, 8:00am – 5:00pm
Building custom solutions for Microsoft 365 doesn’t have to be hard. In this one-day workshop, Bill will show you six different ways you can extend Microsoft 365 without it becoming a major development project. See how just a handful of techniques, easily mastered, can unlock a world of business benefit. There’ll be no code, low code, and full code development for:

1. Teams Tabs (and Bots)
2. Actionable Messages and Adaptive Cards
3. Outlook Add-ins
4. Excel, Word, PowerPoint Add-ins
5. SharePoint Site Designs
6. SPFx Extensions

Bring along your laptop and work along with me as we set up a developer tenant, install NodeJS, and a few other tools and start building stuff!

**You will learn:**
- About quick wins with no code and low code solutions
- How to install and use the components of the modern development toolchain
- New ways of delivering business benefit without needing a full software development team

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**OST08** The Everyday Guide to Office 365 Groups (in Outlook, Yammer, & Teams)
*Introductory*

**MATT WADE**
Tuesday, November 19, 4:15 – 5:30pm
Baffled by Office 365 Groups? Join the club. As we’re all too aware, confused users mean meager adoption. This session will cover:

- What Groups are.
- How to create and use Outlook Groups, Yammer Feeds, and Teams Chats
- Describe in detail how they’re all related (spoiler: they’re basically the same thing).

Most importantly, you’ll pick up use cases that demonstrate when to use which, plus some concise infographics that will help translate this nebulous concept into concrete results.

There’s no reason to reinvent the wheel: after this user-focused session, you’ll receive the slides so you can...
present your colleagues the same session—tailored to your culture—without much effort. Kill the chaos, then reap the benefits of an engaged organization.

You will learn:
- About O365 Groups as the background membership service
- The applicability and impact of choosing a Group in Teams versus Yammer versus Outlook
- Best practices and use cases for each Group type

OSW04 Managing Microsoft Teams: From Governance to Etiquette
Introductory

MATT WADE
Wednesday, November 20, 9:30 – 10:45am
Microsoft Teams is new to many people and how to best work with it isn’t a skill you’re born with. In this session, you’ll learn the proven practices, behaviors, and etiquette to make your Teams experience the best it can be. From permissions recommendations to meme guidance, the best bots to smartly working with external guests, your colleagues need some handholding to maximize their experience with the newest and best collaboration tool in Office 365. This session will cover real use cases, suggested guidelines, and recommendations for dealing with the many nuances that come with working in Teams, plus some great resources for reference after.

You will learn:
- How to prevent bad habits in Teams etiquette
- How to set a baseline governance for everyday use
- Option for not having to reinvent the wheel for attendees that want to put the ideas into place immediately upon returning to work

SHAREPOINT, OFFICE 365 AND THE CLOUD

There’s no doubt the cloud will play a role in one or more SharePoint workloads in your future. The cloud, though, is appropriately nebulous. It’s online, in public forms like Office 365 and in private, dedicated offerings, including Microsoft Azure IaaS (Virtual Machines). It’s onsite, in clouds provided by third parties, and in your own, on-premises data centers. It’s crucial you understand the variety of options available in “the cloud,” so you can align your business needs with the best solution. You must understand how to architect SharePoint Server to scale efficiently to the cloud. As an IT pro, you must be able to configure SharePoint in the cloud. As a developer, you must adapt to the new APIs and models of development in Office 365 and Azure. And as a business user or leader, you must guide your organization in making the right choice for each workload. Join the elite presenters for invaluable, first-hand guidance and insight.

OST04 Fast Focus: Build a Bot for Microsoft Teams in 5 Minutes Using Microsoft Azure
Introductory / Intermediate

NOOREZ KHAMIS
Tuesday, November 19, 2:00 – 2:20pm
Building bots in Microsoft Teams is simpler than you think. See this hands-on demo and follow along to build a bot to deliver simple Q&A answers to your employees by using Microsoft Azure services.

You will learn:
- About Microsoft Azure Bot Services
- About Azure Qna Maker
- How to deploy your bot to Microsoft Teams

OST06 Navigation: A Step Towards Success in SharePoint
Intermediate

STACY DEERE-STROLE
Tuesday, November 19, 2:45 – 4:00pm
Navigation can singlehandedly destroy any SharePoint implementation. How you ask? If your users cannot easily find what they are looking for in 3 clicks or less, they have lost focus and sometimes the drive to reuse the site. However, that is not the only issue that can occur with navigation, one of the most popular ones I have been seeing lately is navigation that takes the users to another page or site, then to another, and another, and another. I guess the good thing is they eventually get there, but the bad news is now they are going to bookmark or make it a favorite so that they never have to click so many times to get back there. Sounds like a great solution for the users, right? Actually, it’s the worst thing that can possibly happen to your SharePoint implementation. The basis

• How to bring all your everyday work into one portal
• Simple, easy voice and video conferencing right in the browser

You will learn:
- How to promote chat over email and simplify communications
of implementing SharePoint within an organization is collaboration, and if the users are bookmarking sites then they are missing all the information the company is trying to share with their organization. The homepage becomes obsolete, editors of the sites stop updating it and then collaboration only (hopefully) exists within the content sites and the company fails in communication.

In this session, we will explore navigation best practices, how to clean up your existing navigation to make it more relevant, easy to use and turn it into the wow factor of your site. Last but not least, some tips and tricks on how to get your users excited about SharePoint and your new navigation.

You will learn:
• Navigation Best Practices
• how to clean-up Current Navigation
• Tips & Tricks

OST02 Understanding Microsoft Search - What You Want to Know
Introductory / Intermediate
AGNES MOLNAR
Tuesday, November 19, 9:15 – 10:30am
Microsoft Search is one of the most powerful and useful workloads in Office 365, and want it or not: used by everyone. However, too often it fails — largely due to poor understanding and implementation.

This session provides you with deep understanding and tips and tricks to apply immediately: what to do and what not to do with your content, taxonomy, information architecture to get the best from Microsoft Search. What configuration and customization options you have, and what’s on the roadmap for the near future. How to get ready and how to prepare your users.

OST06 A Real World Guide to Building Highly Available Fault Tolerant SharePoint Farms
Introductory
ERIC SHUPPS
Wednesday, November 20, 2:00 – 3:15pm
Building SharePoint farms for development and testing is easy. But building highly available farms to meet enterprise service level agreements that are fault tolerant, scalable, and connected to the cloud? Not quite so easy. In this session, you will learn how to plan, design, and implement a highly availability farm architecture based upon proven techniques and practical guidance.

You will learn:
• About the use of SharePoint cross-site publishing
• About the prerequisites of SharePoint cross-site publishing
• The steps necessary to configure and implement cross-site publishing
Agnes shares effective techniques in the context of case studies and practical tips, as well as what pitfalls to avoid.

You will learn:
• About Microsoft Search
• Microsoft Search vs. “classic” search
• How to impact Microsoft Search

**OSW08 Content Services in Office 365**  
*Introductory / Intermediate*  
**AGNES MOLNAR**  
**Wednesday, November 20, 4:00 – 5:15pm**  
Content Services is a core offering for Microsoft in Office 365, OneDrive and SharePoint. It is the “next wave of ECM”, always people-centric, supporting organizational knowledge management information lifecycle, record retention, etc. by various new, modern features.

During this session, Agnes overviews and demonstrates these new features, including the latest announcements as well. She helps you understand what to use when to help your users to find and use all the content and knowledge your organization has.

You will learn:
• About Content Services
• Content Services vs. classic ECM
• About Content Services and Search in Office 365

**OSH02 Automating Business Process on Your Corporate Files Using OneDrive and Flow**  
*Introductory*  
**NOOREZ KHAMIS**  
**Thursday, November 21, 8:00 – 9:15am**  
This is an educational session where participants can learn about the value, capabilities and benefits of using Flow with OneDrive for Business. Participants will learn how to use preconfigured or custom templates to turn their daily repetitive tasks into multistep workflows within a few clicks. Participants will also learn how they can work smarter and more efficiently by automating workflows that connect OneDrive to the most common cloud apps and services. Examples of OneDrive automation that will be covered include, sending high-priority notifications or emails based on specific triggers, copying files from one service to another, sharing information with your team, as well as automating approval workflows.

You will learn:
• Options for Integrating OneDrive and Microsoft Flow
• About Microsoft Flow
• Microsoft Flow security & administration

**OSH04 Search Like a Pro: Mythbusting the “Black Box” of Search**  
*Introductory / Intermediate*  
**AGNES MOLNAR**  
**Thursday, November 21, 9:30 – 10:45am**  
Search is often considered to be a magical “black box”. It’s like air or water: we don’t recognize it as long as it works fine. But as soon as we don’t get the results we expect we start complaining.

In this session, Agnes is de-mystifying Search in SharePoint and Office 365. She’ll explain how it works behind the scenes in a way that makes sense not only for the Search Pros but also for the end users.

She’ll demonstrate the basic concepts of the following things:
• how content becomes searchable;
• how data becomes filter (refiner), how it can be displayed on the user interface;
• how to define various “search verticals” and specific search applications;
• why is it important to add good metadata on the content AND empower all users to do the same;
• how content metadata becomes the “soul of search”;
• in classic and personalized search experiences in Office 365: why we have what we have, and how to get the most of this wide variety of search experiences;
• and many more.

You will learn:
• About Content Services
• Content Services vs. classic ECM
• Content Services and Search in Office 365

**OSH07 Turn Your Business Productivity Up To 11 with Actionable Messages and Adaptive Cards**  
*Introductory / Intermediate*  
**BILL AYERS**  
**Thursday, November 21, 2:30 – 3:45pm**  
Imagine being able to provide your users with an incredible productivity boost with almost no development effort! You can with Outlook Actionable Messages and you’ll be their developer hero! You’ll build solutions that take advantage of the latest version of Adaptive Cards that make it easy to create rich interactive emails that let users take quick actions, all without ever having to leave Outlook or switch context. Then we’ll see how we can use Adaptive Cards in other parts of Microsoft 365, like Windows, Microsoft Teams, Cortana, and Skype. Adaptive Cards allow us to create Line-of-Business applications and processes like task management and report approval, and create a large, measurable return on investment for your company.

You will learn:
• About the latest version of Adaptive Cards
• How to delight Outlook users with Actionable Messages
• How to use Adaptive Cards across different components of Microsoft 365
DEVELOPING FOR OFFICE, OFFICE 365 AND SHAREPOINT

This track is for developers only. The sessions focus on tools and methodologies for developing in SharePoint and Office 365. Expert speakers will lead you through patterns and practices, highlighting the capabilities of various development tools and addressing important considerations including application lifecycle management, enterprise development patterns, SharePoint Framework and the future of the cloud app model. You’ll find high-value sessions throughout this track.

OST01 Mastering Modern Authentication and Authorization Techniques for SharePoint, Office 365 and Azure AD
Intermediate
ERIC SHUPPS
Tuesday, November 19, 9:15 – 10:30am
In the cloud-first era, application development for SharePoint, Office 365, and Azure AD requires strong working knowledge of modern authentication and authorization techniques across multiple platforms. In this deep-dive session, developers will learn how to create secure, cloud-ready applications using OAuth, ADAL, and Azure AD to communicate with the Microsoft Graph, SharePoint and other cloud-connected services.
You will learn:
• Authentication options for the various development models
• How to identify the available authorization flows and determine which to use for each situation
• How to design cross-platform solutions with the proper authentication and authorization techniques

OST07 Building Your First App with the Microsoft Graph (Office 365 APIs)
Intermediate / Advanced
ROB WINDSOR
Tuesday, November 19, 4:15 – 5:30pm
Microsoft Graph is to Office 365 what the REST API and CSOM are to SharePoint. It is a unified endpoint that provides access to a set of RESTful web services (the Office 365 APIs) that enable you to build applications that work with users, groups, calendars, files, tasks, people, notes and more. This session shows you how you can use free tools and resources to build an application that uses the Microsoft Graph. The topics discussed in the session include: using the API explorer, registering an app with Azure Active Directory, Visual Studio tooling, using the REST services, and using the SDK.
You will learn:
• About Microsoft Graph
• How to authenticate with Azure Active Directory
• How to call the Microsoft Graph using C#, TypeScript, and JavaScript

OST05 An Introduction to Development with the SharePoint Framework (SPFx)
Intermediate
ROB WINDSOR
Wednesday, November 20, 2:00 – 3:15pm
Microsoft recently released a new page and web part model called the SharePoint Framework (SPFx). Microsoft used this new framework to build the Modern list and library user experiences that have been rolling out to SharePoint Online. As you’ll see in the session, developing for the SharePoint Framework is nothing like “traditional” SharePoint development. There’s no File | New Project in Visual Studio; instead we’ll be using tools like Node, Yeoman, Gulp and TypeScript. We’re not in Kansas anymore Toto.
You will learn:
• About developer tooling used in SPFx projects
• About the relationship between SPFx and the modern user experience
• APIs used to communicate with SharePoint and other web services

You will learn:
• How to make SharePoint REST API calls in Flow
• How to handle errors in a Flow
• How to modularize your Flows

OSW01 Microsoft Flow for SharePoint Developers
Intermediate
ROB WINDSOR
Wednesday, November 20, 8:00 – 9:15am
When you think of Microsoft Flow you probably think of it in the way that it is marketed, a “low-code” tool that enables power users to build automated workflows. Well, as a SharePoint developer you can use Flow for so much more. Flow can be a service layer; it can enable you to elevate permission even when being called from client-side code; and best of all, every Office 365 tenant can make several thousand Flow calls per month without incurring any additional charges. In this demo-heavy session you’ll see how you can add Microsoft Flow to the set of tools in your developer tool belt. Please note that this session assumes you are already familiar with how to build simple Flows.
You will learn:
• How to make SharePoint REST API calls in Flow
• How to handle errors in a Flow
• How to modularize your Flows

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You will learn:
• About developer tooling used in SPFx projects
• About the relationship between SPFx and the modern user experience
• APIs used to communicate with SharePoint and other web services
OSW07 Supercharge Your Business Productivity with Teams, Extensions, and SPFx
Intermediate / Advanced
BILL AYERS
Wednesday, November 20, 4:00 – 5:15pm
Microsoft Teams is a workspace built on Office 365 - think of it as an app. Groups, calendars, chat, messaging, plans and tasks, video conferencing - all these elements of Microsoft 365 brought together in a single app surface that allows teams to work together without having to switch context between different applications.

We can use Microsoft Teams extensions to build on top of this and add our own UI using a number of extension points, and specifically we can now use the power of the SharePoint Framework to build tabs in Teams and use our existing skills to give users access to their data in Microsoft 365 right inside Teams. We can also use Teams tabs in SharePoint, effectively giving us a new provider-hosted extension model. These new development options open up endless possibilities for building solutions tailored to industries or organizations.

You will learn:
• How to build productivity-boosting Microsoft Teams extensions
• How to re-use your existing SPFx and web development skills
• How to use Teams technology in SharePoint

OSH01 Developing SharePoint Framework Solutions for the Enterprise
Intermediate
ERIC SHUPPS
Thursday, November 21, 8:00 – 9:15am
The SharePoint Framework provides a modern development platform for cloud-first solutions using popular web technologies. But integrating the new model in a structured enterprise development environment can be quite challenging, from toolset integration to application lifecycle maintenance, SPFx creates a number of challenges that can inhibit adoption. In this session you will learn how to overcome these challenges by using popular Microsoft tools such as Visual Studio and Team Foundation Services to deliver well-managed projects that plug easily into existing enterprise development patterns.

You will learn:
• How to identify the challenges associated with developing SPFx solutions in the enterprise
• About the tools and techniques available for SPFx lifecycle management
• How to automate deployment of SPFx solutions with Azure DevOps

OSH03 Asynchronous JavaScript and TypeScript for SharePoint Developers
Intermediate / Advanced
ROB WINDSOR
Thursday, November 21, 9:30 – 10:45am
In JavaScript and TypeScript, all calls to SharePoint must be made asynchronously. In this session we’ll take a look at using promises (both jQuery and ES6) to make these calls. We’ll also examine how to use promises when making Client Object Model calls, how to coordinate multiple asynchronous calls, and how to use async and await in TypeScript.

You will learn:
• About asynchronous programming using promises
• About making web service calls asynchronously
• About combining and chaining asynchronous calls

OSH05 Introduction to Microsoft Teams Development
Intermediate
NOOREZ KHAMIS
Thursday, November 21, 1:00 – 2:15pm
This session will guide you through preparing your computer for developing Microsoft Teams apps, learn the steps to package and test your application, build a basic Microsoft Teams bot, and a Microsoft Teams tab.

You will learn:
• About Microsoft Teams Development
• About Microsoft Teams Deployment
• About Microsoft Teams Extensibility Options

“All mentors and speakers are really experts on the topics that they have discussed. They are also willing to answer all of the attendees questions that they even talk to them after sessions.”

- Reneza Margret Ibayan, Deltek
OFFICE 365 IDENTITY AND SECURITY

Identity: Who are you? Security: What do you have access to? Basic questions with sometimes complex answers. The sessions in this track seek to help you understand the challenges and solutions to common business issues related to identity management, synchronization, and security. Organizations need to be able to collaborate and share securely in the cloud. With ever more demanding requirements for auditing and compliance the Administrators job is becoming more complex. These sessions will help you to gain an understanding or the issues and fill your toolkit with practical advice and solutions to support a secure cloud environment.

OSW02 Creating a Security Plan for Office 365 – The Blue Pill Session

Intermediate

BEN CURRY

Wednesday, November 20, 8:00 – 9:15am

Many organizations struggle to understand and address the wide array of security threats facing a modern business in Office 365. Adding to this pressure, these leaders must simultaneously tackle industry regulations that impose unique cybersecurity controls on their information systems. In this session, Ben will guide you through the preparation of a baseline Office 365 security plan. The audience will leave with a consolidated perspective on how Office 365 and its compliment of products achieve both a secure and compliant foundation. This tutorial will walk you through planning for the major security areas such as:

- Data Governance
- Tenant Security
- Mobile device security

You will learn:

- The security tools available in Office 365
- How and when to use the correct data governance tool
- How to tie mobile security into the overall planning process

OSH06 Office 365 Data Security – The Red Pill Session

Intermediate

BEN CURRY

Thursday, November 21, 1:00 – 2:15pm

The wholistic data governance approach and corresponding toolsets in Office 365 and Azure can be overwhelming for those new to the platform, and also challenging for those who have been in the SharePoint world a long time. The legacy tools have been deprecated and upgraded, and a whole slew of new services are being served up by Azure. This tutorial will walk you through all of the layers of data governance and help you design for features such as Azure Information Protection, Unified Labeling, Retention Labels, Encryption, sensitive information types, and custom data loss prevention (DLP) rules! You’ll leave this session understanding all of the components that make up an Office 365 Data Governance design.

You will learn:

- How to configure DLP
- How to configure and manage Unified Labeling
- How to make the move from AIP to Unified Labeling

OSH08 Running a Modern Search Project in SharePoint Online

Intermediate

MATTHEW MCDERMOTT

Thursday, November 21, 2:30 – 3:45pm

How do you tackle a Search Project with SharePoint Online? In this session, you will learn the phases of a search project and how to break the project up into meaningful “bites” that can have a positive impact on your end users search experience. How does Microsoft Search change the process and delivery techniques we have used for years? Is there an alternative to the Classic Search Center? With practical tips from many years of experience delivering search solutions, this session is full of demos to get you started.

“THE CONFERENCE MADE ME REALIZE THAT THERE ARE ALREADY EXISTING TOOLS WE CAN USE TO IMPROVE AND MAKE SQL DEV, BI ANALYTICS AND DATA VISUALIZATION EASIER.”

- Reneza Margret Ibayan, Deltek
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VP Technology, Creospark

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Senior Associate, Booz Allen Hamilton

Matt Wade
Digital Workforce Expert and Consultant

Rob Windsor
Senior Consultant and Trainer

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## AGENDA-AT-A-GLANCE

### Cloud & Containers Live! Full Day Hands-On Lab: Sunday, November 17, 2019

<table>
<thead>
<tr>
<th>Start Time</th>
<th>End Time</th>
<th>Session Title</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>7:15 AM</td>
<td>9:00 AM</td>
<td>Registration • Coffee and Morning Pastries</td>
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<tr>
<td>9:00 AM</td>
<td>6:00 PM</td>
<td>CCS01 Hands-On Lab: Hands-On with Cloud-Native .NET Development - Rockford Lhotka</td>
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<tr>
<td>2:00 PM</td>
<td>7:00 PM</td>
<td>Pre-Conference Registration - Royal Pacific Resort Conference Center</td>
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### Cloud & Containers Live! Pre-Conference Workshops: Monday, November 18, 2019

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<td>8:30 AM</td>
<td>5:30 PM</td>
<td>CCM01 Workshop: Building, Running &amp; Continuously Deploying Microservices with Docker Containers on Azure - Marcel de Vries &amp; René van Osnabrugge</td>
<td>CCM02 Workshop: Kubernetes Zero to Hero - Installation, Configuration, and Application Deployment - Anthony Nocentino</td>
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<tr>
<td>6:30 PM</td>
<td>8:00 PM</td>
<td>Dine-A-Round Dinner @ Universal CityWalk - 6:30pm - Meet at Conference Registration Desk to walk over with the group</td>
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### Cloud & Containers Live! Day 1: Tuesday, November 19, 2019

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<td>8:00 AM</td>
<td>9:00 AM</td>
<td>CLOUD &amp; CONTAINERS LIVE! KEYNOTE: To Be Announced</td>
<td>Jessica Deen, Azure Avenger, Microsoft &amp; Abel Wang, Senior Cloud Developer Advocate, Microsoft</td>
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<td>9:15 AM</td>
<td>10:30 AM</td>
<td>Networking Break • Visit the EXPO - Pacifica 7</td>
<td>CCT01 Serverless with Knative - Mete Atamel</td>
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<td>11:00 AM</td>
<td>12:00 PM</td>
<td>CLOUD &amp; CONTAINERS LIVE! KEYNOTE: The Power of Real World DevOps</td>
<td>Jessica Deen, Azure Avenger, Microsoft &amp; Abel Wang, Senior Cloud Developer Advocate, Microsoft</td>
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<td>CCT03 Fast Focus: Serverless in Azure 101 - Eric D. Boyd</td>
<td>CCT04 Fast Focus: Containers on AWS - Chris Kinsman</td>
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<td>CCT05 Fast Focus: Deploying Apps to Kubernetes Using Helm - Rockford Lhotka</td>
<td>CCT06 Fast Focus: Building &amp; Debugging Container-based Apps with VS2019 - Benjamin Day</td>
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<td>2:45 PM</td>
<td>4:00 PM</td>
<td>CCT07 Building a Better Distributed Job Scheduler on Kubernetes - Chris Kinsman</td>
<td>CCT08 Lock the Doors, Secure the Valuables, and Set the Alarm - Eric D. Boyd</td>
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<td>5:30 PM</td>
<td>7:30 PM</td>
<td>Exhibitor Reception - Pacifica 7</td>
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Speakers and sessions subject to change
### AGENDA-AT-A-GLANCE (continued)

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<td>9:15 AM</td>
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<td><strong>CCW02</strong> To Be Announced</td>
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<tr>
<td>9:30 AM</td>
<td>10:45 AM</td>
<td><strong>CCW03</strong> Azure App Service Security for ASP.NET Core MVC and WebAPI - Benjamin Day</td>
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<tr>
<td>9:30 AM</td>
<td>10:45 AM</td>
<td><strong>CCW04</strong> Automate Your Life with PowerShell on Lambda - AM Grobelny &amp; Steve Roberts</td>
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<tr>
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<td>12:30 PM</td>
<td>LIVE! 360 KEYNOTE: To Be Announced</td>
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<td>Birds-of-a-Feather Lunch</td>
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<td>Dessert Break • Visit the EXPO</td>
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<td><strong>CCW05</strong> Architecting .NET Solutions in a Docker Ecosystem - Alex Thissen</td>
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<td>Networking Break • Visit the EXPO • Expo Raffle @ 3:30 p.m. - Pacifica 7</td>
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<td><strong>CCW07</strong> Serverless .NET on AWS - AM Grobelny</td>
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<td>Live! 360 Dessert Luau - Wantilan Pavilion</td>
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Speakers and sessions subject to change
AGENDA-AT-A-GLANCE (continued)

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<thead>
<tr>
<th>Cloud-Native Development</th>
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**Cloud & Containers Live! Day 3: Thursday, November 21, 2019**

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<tr>
<td>7:30 AM</td>
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<td>Registration • Coffee and Morning Pastries</td>
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<tr>
<td>8:00 AM</td>
<td>9:15 AM</td>
<td><strong>CCH01</strong> Busy Developer’s Guide to the Clouds - Ted Neward</td>
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<tr>
<td>9:30 AM</td>
<td>10:45 AM</td>
<td><strong>CCH02</strong> Kubernetes Runtime Security - Jen Tong</td>
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<tr>
<td>11:00 AM</td>
<td>12:00 PM</td>
<td>CCH03 Standup Comedy Hour – Why App Folks Love Infrastructure Folks? - Vishwas Lele &amp; Jack O’Connell</td>
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<td>12:00 PM</td>
<td>1:00 PM</td>
<td>Lunch - Oceana Ballroom</td>
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<td>1:00 PM</td>
<td>2:15 PM</td>
<td><strong>CCH04</strong> Implementing Zero Downtime Application Deployments on Azure PaaS - Marcel de Vries</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>3:45 PM</td>
<td><strong>CCH05</strong> Modernize Your App to be Delivered as a SaaS Service - Nick Pinheiro</td>
</tr>
<tr>
<td>4:00 PM</td>
<td>5:00 PM</td>
<td><strong>CCH06</strong> Azure Cloud Transformation Done Right - Marcel de Vries</td>
</tr>
<tr>
<td>4:00 PM</td>
<td>5:00 PM</td>
<td><strong>CCH07</strong> Enable External Access to Your Custom Apps with Azure AD B2B - Nick Pinheiro</td>
</tr>
<tr>
<td>4:00 PM</td>
<td>5:00 PM</td>
<td><strong>CCH08</strong> Running 30-Year-Old Software as a Cloud Native SaaS Solution with Docker and Kubernetes on Azure - Roy Cornelissen</td>
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</tbody>
</table>

**Next? Live! 360 Networking Event**
Bradley Ball, Andrew Brust, Ben Curry, Peter Daalmans, Joseph D’Antoni, Marcel de Vries, Billy Hollis, Dave Kawula, Raj Krishnan, Thomas Sami Laiho, LaRock, Vishwas Lele, Rockford Lhotka, Karen Lopez, Matthew McDermott, Agnes Molnar, Brian Randell, Panu Saukko, Jen Stirrup, & Alex Thissen

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**Cloud & Containers Live! Post-Conference Workshop: Friday, November 22, 2019**

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<td>8:00 AM</td>
<td>5:00 PM</td>
<td><strong>CCF01</strong> Workshop: Kubernetes on Azure – Vishwas Lele</td>
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Speakers and sessions subject to change
FULL DAY HANDS-ON LABS
These instructor-led, pre-conference Hands-On Labs offer attendees intensive in-depth training before the conference officially begins. Choose from eight extended 8-hour labs and take advantage of in-person instruction as well as collaboration with peers.

Attendance for each Hands-On Lab is limited, so be sure to sign up early for these special bring your own laptop pre-conference HOLS.

CCS01 Hands-On Lab: Hands-on with Cloud-Native .NET Development
Introductory / Intermediate
ROCKFORD LHOTKA
Sunday, November 17, 9:00am – 6:00pm
In this hands-on lab you will learn how to install and interact with Docker and Kubernetes (using minikube). Using that infrastructure, you will learn how to build .NET Core apps in Visual Studio that run in a k8s environment: web apps, web APIs, and message-based services. Along the way you’ll learn numerous cloud-native best practices around microservice and message-based/event-based architecture, 12-factor design, how to avoid the fallacies of distributed computing, and more.

You will learn:
• How to install Docker and Kubernetes locally
• How to build .NET Core apps that deploy to k8s
• How to implement a microservice-based app

Attendee Requirements:
You must provide your own laptop computer, GitHub or Azure DevOps cloud subscription, and Azure subscription (from MSDN or your organization) for this hands-on lab.

The latest hands-on lab content can always be found here: https://github.com/rockfordlhotka/Cloud-Native-HOL

This includes an up to date list of knowledge, services, and workstation software you should have set up or installed before arriving at the hands-on lab:
https://github.com/rockfordlhotka/Cloud-Native-HOL/blob/master/docs/prerequisites.md

Please remember that bandwidth and time are both limited at the event, so it is important to have your laptop pre-configured with the necessary software before arriving on-site. There may be some last-minute fixes to the code so we recommend waiting to clone the repository until a day or two prior to the HOL. The installation part is imperative to do in advance.

WORKSHOPS
Choose from a wide range of content and topics by expert presenters with Live! 360 Orlando’s Pre- and Post-Conference full-day workshops.

CCM01 Workshop: Building, Running & Continuously Deploying Microservices with Docker Containers on Azure
Introductory / Intermediate
MARCEL DE VRIES & RENÉ VAN OSNABRUGGE
Monday, November 18, 8:30am – 5:30pm
You are a (lead-)developer or architect who wants to design and implement a modern Microsoft based microservices architecture using Microsoft technologies. You want to transition from a monolithic architecture to an architecture that consists out of small and independent services that you can scale independently on your different develop, test and production environments.

In this one-day workshop we will guide you through the concepts behind Micro Services, Containers and Containerized delivery to help you build and manage MSA based systems.

We will show how to build services and deploy them to different hosting environments like Azure ACS (with either Kubernetes, DC/OS or Swarm), Service fabric or on your own on premises container environment.

Topics that will be covered:
• Microservice architectures on a Microsoft Stack
• Containers & Docker on Windows
• Continuous delivery with Azure DevOps of containerized applications
• Setting up ACS clusters with Kubernetes, DC/OS or Swarm
• Deploying to different environments including clusters
• Adding Telemetry to your system to find issues in the constellation of services
• Zero downtime deployments of new versions of your application, including the database

“VERY GOOD JOB. GREAT PRESENTERS WITH A CLEAR WEALTH OF KNOWLEDGE AND EXPERIENCE. ALL WELL SPOKEN. GOOD PACE AND FLOW WITH ALL SPEAKERS.”

- Jeff Foltz, NSF
You will learn:
- About Microservices
- How you can apply the reactive manifesto
- How to think in events versus request response
- How to build, deploy, and debug a set of Microservices
- What technologies you can use to build a Microservices Architecture on the Microsoft Stack
- What Container technology has to offer
- About building and running Docker containers on Windows
- How to set up a Containerized Delivery Pipeline
- How to build and maintain a container cluster in the cloud
- How to manage and operate a cluster

CCM02 Workshop: Kubernetes Zero to Hero - Installation, Configuration, and Application Deployment
Intermediate
ANTHONY NOCENTINO
Monday, November 18, 8:30am – 5:30pm
Modern application deployment needs to be fast and consistent to keep up with business objectives and Kubernetes is quickly becoming the standard for deploying container-based applications, fast. In this day-long workshop, we will start with an architectural overview of a Kubernetes cluster and how it manages application state. Then we will learn how to build a production-ready cluster. With our cluster up and running, we will learn how to interact with our cluster, common administrative tasks, then wrap up with how to deploy applications and SQL Server. At the end of the workshop, you will know how to set up a Kubernetes cluster, manage a cluster, deploy applications and databases, and how to keep everything up and running.

Session Objectives:
- Introduce Kubernetes Cluster Components
- Introduce Kubernetes API Objects and Controllers
- Installing Kubernetes
- Interacting with your cluster
- Storing persistent data in Kubernetes
- Deploying Applications in Kubernetes
- Deploying SQL Server in Kubernetes
- High Availability scenarios in Kubernetes

You will learn:
- About Kubernetes Cluster Components
- About Kubernetes API Objects and Controllers
- About deploying Applications in Kubernetes

CCF01 Workshop: Kubernetes on Azure
Advanced
VISHWAS LELE
Friday, November 22, 8:00am – 5:00pm
In four years, Kubernetes has gone from an open source orchestrator, to being accepted as the inaugural project of the Cloud Native Computing Foundation (CNCF), to now when it’s undoubtedly seen as the container orchestration standard. Strong community support for Kubernetes can be gauged by the fact that, in terms of number of authors/issues, it is No. 2 (with No. 1 being Linux) across all projects on GitHub.

Today, Kubernetes as a service is available on all major public cloud platforms, including Azure. Azure Kubernetes Service (AKS) is a “managed” offering. This means that it greatly reduces the complexity and operational overhead of managing Kubernetes. AKS handles critical tasks like health monitoring and maintenance. AKS also natively integrates with Azure platform services like Azure Active Directory, Log Analytics and Azure Virtual Network. Finally, AKS enjoys a rich ecosystem of development tools such as Helm, Draft and extension for Visual Studio Code.

In summary, if you’re building a container-packaged, microservices-oriented application, it’s more than likely that such an application will need to run on a dynamically managed cluster such as AKS (for optimal use of resources and lowering overall TCO).

In this deep-dive workshop on “all things Kubernetes,” we’ll start with a discussion on design principles around microservices. Next, we’ll review Kubernetes concepts in detail. Finally, we’ll dive deep into AKS itself and how it integrates with other Azure services.

You will learn:
- About Key Kubernetes Concepts
- Deep dive into AKS
- How AKS integrates with other Azure services
Cloud-native computing is rapidly becoming the standard for software development. For most organizations, it’s not a matter of “if,” it’s more about how much cloud-native computing you’ll build. Container technologies such as Docker and Kubernetes (aka k8s) are having a large impact on cloud computing, as well as on software architecture. This is perhaps most clear when thinking about microservice software architectures and how they can be used to leverage cloud- and container-based environments. It is hard to imagine any enterprise development scenario where one or more of these trends would not be high on the list of critical skills.

You’ll find coverage of:

- Microservice architecture and implementation
- Building a better job scheduler for Kubernetes
- Azure App Service Security for ASP.NET Core
- Serverless on Azure
- Serverless with Knative
- Serverless on AWS
- Architecting .NET solutions for Docker
- Picking the right cloud
- Modernize your app for delivery via SaaS
- Authentication using Azure AD B2B

**CCT01 Serverless with Knative**

*Introductory / Intermediate*

**METE ATAMEL**

*Tuesday, November 19, 9:15 – 10:30am*

When you build a serverless app, you either tie yourself to a cloud provider, or you end up building your own serverless stack. Knative provides a better choice. Knative extends Kubernetes to provide a set of middleware components (build, serving, events) for modern, source-centric, and container-based apps that can run anywhere. In this talk, we’ll see how we can use Knative primitives to build a serverless app that utilizes the Machine Learning magic of the cloud.

You will learn:

- About Knative project at the high level
- How to look into details of Knative eventing, serving, and build
- From demos along the way for each part

**CCT05 Fast Focus: Deploying Apps to Kubernetes Using Helm**

*Intermediate*

**ROCKFORD LHOTKA**

*Tuesday, November 19, 2:00 – 2:20pm*

Kubernetes (k8s) is rapidly becoming the de facto runtime for cloud-native software. Helm is a powerful tool for deploying software into k8s. Helm can deploy multiple containers and services into k8s in a coordinated manner, often based on pre-defined “charts” provided by service vendors.

You will learn:

- How k8s and Helm relate to each other
- How Helm is used to deploy services to k8s
- The components of Helm (charts, Tiller, etc.)

**CCT03 Fast Focus: Serverless in Azure 101**

*Introductory / Intermediate*

**ERIC D. BOYD**

*Tuesday, November 19, 1:30 – 1:50pm*

Learn what serverless compute is all about and how you get started with serverless in Azure. Get an overview of developing and running serverless code in Azure. Explore how to integrate with other services, and trigger your code from events within and outside of Azure. And leave this session understanding the billing model, so you’re prepared when estimating the cost of your apps.

You will learn:

- An overview of serverless compute
- How to get started with Azure Functions
- How to integrate Azure Functions into your solutions

**CCT06 Fast Focus: Building & Debugging Container-based Apps with VS2019**

*Intermediate*

**BENJAMIN DAY**

*Tuesday, November 19, 2:00 – 2:20pm*

Here’s the dirty little secret of developing apps for containers: it can be a HUGE pain. Even though you’re developing the app on your machine, it’s basically running in something that’s not really actually your machine -- it’s running in a container. Thankfully, Visual Studio 2019 has some great features for making the process of developing and debugging container apps a lot less painful. In this session, we’ll do a 20-minute demo of how to use these VS2019 container tools.
### CTT07 Building a Better Distributed Job Scheduler on Kubernetes

**INTERMEDIATE / ADVANCED**  
**CHRIS KINSMAN**

**Tuesday, November 19, 2:45 – 4:00pm**

Like many companies, we had a need to run scheduled jobs in a distributed fashion and check up on their execution. We looked at a number of solutions including Kubernetes CronJobs and each was missing key features we found important. This session will look at an open source cron replacement built in node leveraging the Kubernetes API to schedule jobs across a cluster. It will use the Kubernetes API to schedule jobs, gather logs, and watch key Kubernetes APIs to respond to state changes in the cluster.

**You will learn:**
- How to call Kubernetes APIs
- How to use kubectl proxies to debug outside the cluster
- How to watch for state changes in the cluster

### CCW01 Microservice Architecture

**Intermediate**  
**ROCKFORD LHOTKA**

**Wednesday, November 20, 8:00 – 9:15am**

It seems like everyone is talking about microservice architectures. In this session, you’ll learn about the benefits and costs of this architecture, the prerequisites your organization needs to have in place, and how you can implement enterprise systems using microservices and messaging. Demos and code are in .NET Core running on Linux containers in Kubernetes.

**You will learn:**
- The costs and benefits of microservice architecture
- Prerequisites for a microservice implementation
- How microservices and messaging are related

### CCT09 Microservices and Containers with Service Fabric and Azure Service Fabric Mesh

**Introductory**  
**ERIC D. BOYD**

**Tuesday, November 19, 4:15 – 5:30pm**

Service Fabric is the foundational technology that powers Microsoft Azure large-scale services such as Azure Cosmos DB, Azure SQL Database, Microsoft Dynamics 365, and Cortana. In this session, you’ll get an overview of Service Fabric and the application and service model. You’ll learn how to develop Service Fabric applications and how to deploy those applications to Service Fabric clusters and the new serverless Service Fabric Mesh service. We’ll dive into the platform and programming model advantages including stateful services and actors for low-latency data processing and more.

### CCW03 Azure App Service Security for ASP.NET Core MVC and WebAPI

**Intermediate / Advanced**  
**BENJAMIN DAY**

**Wednesday, November 20, 9:30 – 10:45am**

Azure App Services have a great feature that’s nicknamed “Easy Auth.” It’s also known as Azure App Service Authentication & Authorization. It lets you configure your app so that users can log in using Azure Active Directory (AAD), Facebook, Google, Twitter, or Microsoft Account (MSA). It’s great because all the difficult authentication and identity stuff is handled by Azure without you having to code anything in your ASP.NET Core MVC or WebAPI app.

In this session, Ben will show you the basics of Azure “Easy Auth” – how it works, why it’s helpful, and how to set it up. After that, we’ll go “off road” to start extending “Easy Auth” in order to handle more complex scenarios such as enabling multiple authentication providers simultaneously, writing custom ASP.NET Core Middleware to implement claims-based authorization in your application, using ASP.NET Core Policy-based authorization in your app, and how to create a “development mode” version of security that you can use on your local machine without Azure.

**You will learn:**
- About Azure App Service Authentication & Authorization (“Easy Auth”)
- How “Easy Auth” works
- How you can use ASP.NET Core Middleware to extend it beyond just the simple, basic scenarios

### CCW05 Architecting .NET Solutions in a Docker Ecosystem

**Introductory**  
**ALEX THISSSEN**

**Wednesday, November 20, 2:00 – 3:15pm**

You must have noticed how Docker and containers is playing a more and more important part in .NET development. Docker support is everywhere, so it should be easy to build solutions based on container technology, right? But, it takes a bit more to architect and create a .NET solution that use Docker at its core. Many questions arise: How do you design a solution architecture that fits well with containers? Would I use .NET or .NET Core? What is a proper way to migrate to such an architecture? What changes in the .NET implementation from pre-Docker solutions with micro-services? Where do container orchestrators fit in and how do I build and deploy my solutions on a Docker container cluster, such as Azure Kubernetes Service?

These and many other questions will be answered in this session. You will learn how to design and architect your .NET solutions and get a flying start to create, build and run Docker-based containerized applications.
You will learn:
- How to make your .NET Core solution container ready and aware
- About architectural changes in .NET Core based solutions for cloud container hosting
- An overview of container technology

CCW07 Serverless .NET on AWS
Intermediate
AM GROBELNY
Wednesday, November 20, 4:00 – 5:15pm
Come learn how to develop serverless applications using tools built specifically for .NET developers on AWS. We’ll show you how to build a full serverless web application using Visual Studio or Visual Studio Code, ASP.NET Core, and AWS. Along the way, we’ll meet the purpose-built tools specially designed for .NET developers using AWS that integrate with the .NET tools you already use. You’ll leave with a functioning, real serverless app, so bring your laptops and be ready to code!

You will learn:
- About common serverless architectures
- How to dive into tools for building serverless apps
- How to deploy a real serverless app to AWS

CCH05 Modernize Your App to be Delivered as a SaaS Service
Intermediate
NICK PINHEIRO
Thursday, November 21, 1:00 – 2:15pm
Interested in providing your existing or upcoming app to be delivered as a service but don’t know where to begin? In this session we will discuss the steps you will need to take to convert your app into a SaaS-based service. In addition, we’ll cover recommended practices around SaaS solutions on the Azure PaaS platform. Technologies include: Azure App Service, Azure Web Apps, Azure API Apps, ASP.NET, Azure REST API, Azure Resource Manager (ARM), Azure Role Based Access Control (RBAC), CI/CD with Azure DevOps, Azure SQL and Azure Storage.

You will learn:
- The concept of cloud computing more directly
- About various different cloud providers and their offerings
- How to compare the cloud platforms for yourself

CCH07 Enable External Access to Your Custom Apps with Azure AD B2B
Intermediate
NICK PINHEIRO
Thursday, November 21, 2:30 – 3:45pm
Providing external access to your custom applications can be challenging. Many use cases require such external users to login with either organizational or consumer accounts. Furthermore, every application must have a roles and entitlements layer. In this session you will learn to fully enable and configure Azure Active Directory’s Business to Business (B2B) identity offering. We will walk through integrating your Azure B2B tenant with your application as well as AAD based roles and custom roles.

You will learn:
- How to enable and configure Azure AD’s Business to Business (B2B) identity offering
- How to use the Microsoft Graph API to provide custom invitations to your app
- How to integrate your existing app identity with Azure AD B2B

“THIS CONFERENCE HAS GROWN TO INCLUDE INCREASINGLY DIVERSE CONTENTS. I LIKE THE FACT THAT I CAN ATTEND SOME SESSIONS THAT WERE NOT IN MY REGISTRATION. SERVICES ARE EXCELLENT!”

- Steve Yang, Actsoft
CLOUD & CONTAINERS LIVE! SESSION DESCRIPTIONS BY TRACK (continued)

CLOUD-NATIVE INFRASTRUCTURE

Cloud-native has a major impact on traditional infrastructure roles and skillsets. Where servers used to be treated like unique individuals, they are now commodity resources that should all be identical (at least within a class). Cattle, not pets. This means rethinking a lot of process and management of hardware, operating systems, monitoring, and many other aspects of enterprise infrastructure.

This track includes coverage of the following:
- Intro to Kubernetes
- Containers on AWS
- Practical container scenarios in Azure
- Cloud-native security
- Protecting critical workloads in an active Kubernetes cluster
- Automation with PowerShell on Lambda
- Stop reinventing the wheel with Istio
- Cloud-native deployments with Terraform
- Kubernetes runtime security

CCT02 - Intro to Kubernetes

CHRIS KINSMAN
Tuesday, November 19, 9:15 – 10:30am
Looking to take the next step and move your containers into production? How do you handle where they are deployed, restarting on failure, and deployments? Enter the orchestrator. Kubernetes is the orchestrator that appears to be winning the container wars. Why is Kubernetes winning? What capabilities does it bring to the table? This session will dig into the lingo and concepts around Kubernetes and show you how to deploy a simple solution in Kubernetes on AWS.

You will learn:
- About Kubernetes concepts and lingo
- How to interact with Kubernetes via kubectl and the dashboard
- How to deploy a multi-tier app in Kubernetes on AWS

CCT04 Fast Focus: Containers on AWS

Introductory / Intermediate
CHRIS KINSMAN
Tuesday, November 19, 1:30 – 1:50pm
Amazon Web Services provides multiple ways to run containers in the cloud. This session will dig into Elastic Container Service and Elastic Kubernetes Service on AWS. It will highlight the features and differences between them and show you how to use Terraform to create new clusters and deploy services.

You will learn:
- How to create an ECS cluster and service using Terraform
- How to create an EKS cluster using Terraform
- How to deploy a solution to EKS using kubectl

CCT08 Lock the Doors, Secure the Valuables, and Set the Alarm

Introductory / Intermediate
ERIC D. BOYD
Tuesday, November 19, 2:45 – 4:00pm
Data center attacks and security breaches are hot, but common news today. When considering the cloud, security, privacy, and compliance are often top concerns. And rightfully so, you don’t want to be the next big news story.

Join Azure MVP, Eric D. Boyd, and learn how to secure your Azure Data Center by reducing the exposure for attacks, locking down internal and external communications, protecting your data, and monitoring the activities within your Azure environment.

You will get a lap around a number of Azure capabilities including network security groups, Key Vault, VM disk encryption, SQL Database security, Azure Security Center, Next-Generation Firewalls, Web Application Firewalls, and more.

You will learn:
- About Azure security capabilities
- How to secure your Azure environment
- How to protect your data and applications

CCT10 Practical Container Scenarios in Azure

Intermediate
ANTHONY NOCENTINO
Tuesday, November 19, 4:15 – 5:30pm
You’ve heard the buzz about containers and Kubernetes, now let’s start your journey towards rapidly deploying and scaling your container-based applications in Azure. In this session, we will introduce containers and the container orchestrator Kubernetes. Then we’ll dive into how to build a container image, push it into our Azure Container Registry and deploy it our Azure Kubernetes Services cluster.

Once deployed, we’ll learn how to keep our applications available and how to scale them using Kubernetes.

Key topics introduced:
- Publishing containers to Azure Container Registry
- Deploying Azure Kubernetes Services Clusters
- Scaling our container-based applications in Azure Kubernetes Services

You will learn:
- About publishing containers to Azure Container Registry
- About deploying Azure Kubernetes Services Clusters
- About scaling container-based applications in Azure Kubernetes Services
CCW04 Automate Your Life with PowerShell on Lambda
Intermediate
AM GROBELNY & STEVE ROBERTS
Wednesday, November 20, 9:30 – 10:45am
We’ll run PowerShell on AWS Lambda and investigate some common use cases where a simple automation script can add intelligence and convenience to your workloads.
In this session, we’ll explore some scripts you can add to your environments today, such as augmenting support conversations with ML, adding an automated text-to-speech feature for an RSS feed, sending notifications based on internal systems, and implementing a document approval process workflow.
We’ll visit tools like AWS Lambda and AWS Step Functions and learn about how to schedule tasks and create workflows. All scripting will take place in PowerShell using the AWS Tools for PowerShell and PowerShell Core.
You will learn:
• How to deploy PowerShell scripts to Lambda
• Why automation works well with Lambda and PowerShell
• How to easily incorporate machine learning into your automation tasks

CCH02 Kubernetes Runtime Security
Introductory
JEN TONG
Thursday, November 21, 8:00 – 9:15am
Containers make it easier than ever to prevent insecure deployments, but mistakes and new vulnerabilities happen. Runtime security focuses on responding to breaches as they occur, and gathering information for forensic analysis.
In this talk, Jen will guide you through common runtime security concerns, and discuss how they change as you move to containers and Kubernetes. She’ll describe tools that detect and control compromises. Then she’ll demonstrate these tools responding to a compromised container.
You’ll leave with an understanding of what to plan for, and how to respond when there’s an issue.
You will learn:
• About the importance of defense in depth in the context of Kubernetes deployments
• About common designs for container monitoring software
• See runtime security software in action

Cloud & Containers Live! Session Descriptions by Track (continued)

CCH03 Standup Comedy Hour – Why App Folks Love Infrastructure Folks?
Introductory
VISHWAS LELE & JACK O’CONNELL
Thursday, November 21, 9:30 – 10:45am
This session brings together an infrastructure engineer and app developer on the stage to discuss their journey to the cloud, containers, and DevOps. Between lame jokes and forced nerdy laughter, we will try to communicate some valuable lessons learned in an enterprise’s journey into DevOps and the Cloud.
Both presenters suck at comedy, so for those of you looking to be entertained at this technical conference, we suggest you attend another session (although we will then question your motivation to participate in this conference in the first place).

“SMALL, INTIMATE SESSIONS NEAR EACH OTHER. GOOD FOOD; GOOD NETWORKING TECHNIQUES. GOOD LOCATION.”
- Luis Mena, The Early Learning Coalition

CLOUD-NATIVE DEVOPS
Cloud-native software and infrastructure can’t succeed without a solid devops process and related technologies. Microservice architectures mean you are deploying at least an order of magnitude more apps than ever before. Cloud-native runtimes like Kubernetes require a whole new set of monitoring and management technologies, which ideally feed back into automated adjustments of the runtime environment.
This track includes coverage of the following:
• Implementing zero downtime on Azure PaaS
• Azure cloud transformation done right
• Running 30-year-old software as SaaS on Docker/Kubernetes
• Standup comedy: Why app folks love infrastructure folks?
CLOUD & CONTAINERS LIVE! SESSION DESCRIPTIONS BY TRACK (continued)

You will learn:
• Dev, DevOps and Infrastructure engineer interaction
• Essentials of Containers and Orchestrators
• Networking, Storage and Compute Basics

CCH04 Implementing Zero Downtime Application Deployments on Azure PaaS
Introductory / Intermediate
MARCEL DE VRIES
Thursday, November 21, 9:30 – 10:45am
How can I deploy my applications to Azure PaaS like Azure Web Apps and AKS without having any downtime? How can I automate this and how can I ensure my customers won’t notice changes are happening, even when you need to update your database schema? In this session I will show you how to use Azure DevOps Build and Deployment pipelines to deliver your application to production many times a day while not interrupting your users.

You will learn:
• How to separate deployment from feature reveal
• How to use networking techniques to prevent downtime
• How to use containers to run your system 24/7

CCH06 Azure Cloud Transformation Done Right
Introductory
MARCEL DE VRIES
Thursday, November 21, 1:00 – 2:15pm
The past years we have been involved in many so-called cloud transformation projects. Many of those projects had big issues, and we learned a ton of things how not to do the transition! Think about things that will cause problems like: A Cloud Competence Center, A Cloud Platform team, Asking the operations team how to move to the cloud, etc. These are common mistakes made every day that prevent you from gaining traction and speed. You might succeed, but you will go through a lot of pain and suffering. In this session, I will share an approach that we build based on our mistakes and learnings that will help you move to the cloud at speed. I will share the organizational, human and cultural side of things, a strategy on how to onboard teams and how to avoid common mistakes that are even promoted as best practices by high paid cloud consultants! I will also cover some technical details like setting up subscriptions, permissions and tools in the right way, so it won’t hurt you after your 10th team is on boarding! This session is all about what we learned and how you can avoid these issues yourself.

You will learn:
• About common anti patterns in cloud transformation
• Why DevOps and Cloud are re-enforcing factors
• How to jumpstart your azure migration

CCH08 Running 30-Year-Old Software as a Cloud Native SaaS Solution with Docker and Kubernetes on Azure
Introductory / Intermediate
ROY CORNELISSEN
Thursday, November 21, 2:30 – 3:45pm
Docker makes it easy to containerize existing applications and run them on arbitrary machines. Kubernetes takes it to the next level by offering fast and easy container orchestration at runtime. Containerization has been common practice in the Linux world for years, but lately developers on the Microsoft stack have jumped on the Docker bandwagon too. That is all nice and dandy for .NET Core applications that are easily deployable in Docker on Linux, but what if you have 30-year-old Win32 and .NET software that has to be cloudified and run as a Software as a Service offering on demand?

In this presentation, Roy will share the journey of his team that lead them from hope to desperation to glory in turning an on-premise Client-Server application into a full-blown cloud native service, with some ancient pieces still in there. It surely can be done!

You will learn:
• About Docker Containers on Windows
• About Windows Containers in Kubernetes on Azure
• About Architecture learnings

“LOVED THE TOP NOTCH SPEAKERS AND RELEVANT TOPICS. LOVE THE ADDITION OF AI CLASSES.”
- Summer Hudson, Badge Pass
CONFERENCE CO-CHAIRS AND ADVISORY BOARD

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Founder & CEO, responsiveX

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Alex Thissen
Architect, Lead Developer, and Mentor

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Security Advocate, Google

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Founded in 1975, Microsoft (Nasdaq "MSFT") is the worldwide leader in software, services and Internet technologies for personal and business computing. Microsoft offers a wide range of innovative products and services designed to help individuals and organizations realize their full potential. [www.microsoft.com](http://www.microsoft.com)

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Accusoft offers a robust portfolio of document and imaging tools for developers. Our APIs and software development toolkits (SDKs) allow developers to add high-performance document capture and forms processing, viewing, search, compression, conversion, barcode recognition, OCR, ICR, and MICR to their applications. Visit [https://www.accusoft.com](https://www.accusoft.com) for more information.

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ITCertPro

ITCertPro is a blog hosted by IT Certified Professional Tom Swanson. ITCertPro covers topics of interest for current IT Certified Professionals as well as those who want to become one. Visit [ITCertPro.com](http://ITCertPro.com) for coverage of TechMentor and Live! 360 and chances to win conference passes. Engage with us on Facebook and Twitter.

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Amazon Web Services (AWS)

For over 12 years, Amazon Web Services has been the world’s most comprehensive and broadly adopted cloud platform. AWS offers over 165 fully featured services for compute, storage, databases, networking, analytics, robotics, machine learning and artificial intelligence (AI), Internet of Things (IoT), mobile, security, hybrid, virtual and augmented reality (VR and AR), media, and application development, deployment, and management from 60 Availability Zones (AZs) within 20 geographic regions, spanning the U.S., Australia, Brazil, Canada, China, France, Germany, India, Ireland, Japan, Korea, Singapore, Sweden, and the UK. AWS services are trusted by millions of active customers around the world—including the fastest-growing startups, largest enterprises, and leading government agencies—to power their infrastructure, make them more agile, and lower costs. To learn more about AWS, visit [https://aws.amazon.com](https://aws.amazon.com)

**ALLIANCE MEDIA PARTNER**

Columbus OH has a vibrant and diverse developer community. Our UG welcomes developers across all platforms or language boundaries—we love technology above anything else. Let’s talk how we build modern apps—architecture, tooling, design, security and human ingenuity. We invite awesome speakers and geek out over technology…and some pizza. Visit [https://www.meetup.com/columbusappdevug/](https://www.meetup.com/columbusappdevug/)

Visit [live360events.com](http://live360events.com) for the growing list of sponsors, exhibitors and partners.
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Reporting must be Fast!

Founded in 1998, Fast Reports is known for its state-of-art reporting software applications, libraries and add-ons that guarantee fast reporting for developers of the business software. The company has websites in 10 different languages to cater to its global audience. The products are localized to more than 40 languages. Operations are spread across America and Europe.

GrapeCity’s family of products provides developers, designers, and architects with the ultimate collection of easy-to-use tools for building high-performing, feature-complete applications. With over 30 years of experience, our experts anticipate the needs of the market and offer the industry’s best support. A diverse product line delivers grids, UI, reporting, JavaScript, spreadsheet, and mobile controls for the enterprise and beyond. https://www.grapecity.com

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[Securing Your Standards]

After your Windows 10 is out there, how do you deliver and maintain settings for the operating system, browsers, the user’s desktop and Java? Answer: PolicyPak. Founded by Group Policy MVP Jeremy Moskowitz, PolicyPak enhances your on-prem tools (like Group Policy or SCCM) or cloud management tool (like Intune or AirWatch), enabling you to deliver, enforce, remediate and report on settings beyond what your on-prem or cloud based management tool can do. If you want to manage Java, browsers, eliminate and/or bypass UAC prompts, and put the smackdown on ransomware, come check out PolicyPak while at TechMentor and say Hi to the team. To learn more about PolicyPak, visit https://www.policypak.com

WhiteSource

WhiteSource secures and manages open source components in your products. Our platform becomes part of your software development lifecycle (SDLC) and automates the entire process of open source components selection, approval, and management, including finding and fixing vulnerable components. It identifies all open source components in your repository, build tools and CI servers to alert in real-time on vulnerable and problematic components, enforces policies automatically, provides remediation suggestions and generates comprehensive reports in one click.
https://www.whitesourcesoftware.com

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Conference Venue, Hotel Deals & Travel

HOTEL INFORMATION

THE LOEWS ROYAL PACIFIC RESORT CONFERENCE CENTER is located in the middle of two of Orlando’s best Universal Orlando resorts, Loews Royal Pacific Resort and Loews Sapphire Falls Resort. Both resorts are just a short walk or water taxi ride away from Universal’s two amazing theme parks, Universal Studios Florida® and Universal’s Islands of Adventure®, and Universal CityWalk®. These well-situated properties make visiting this sunny locale easy.

LOEWS ROYAL PACIFIC RESORT
6300 Hollywood Way
Orlando, FL 32819
Special attendee rate: $164.00*
Book by: October 28, 2019
Reservations: 866.360.7395

LOEWS SAPPHIRE FALLS RESORT
6601 Adventure Way
Orlando, FL 32819
Special attendee rate: $164.00*
Book by: October 28, 2019
Reservations: 866.360.7395

Rooms at Loews Royal Pacific Resort in the Live! 360 Room Block also include the following:
• Complimentary in-room internet connectivity**
• Complimentary use of The Gymnasium, fitness center
• Exclusive Universal Orlando theme park benefits - Click here for more details.

Rooms at Loews Sapphire Falls Resort in the Live! 360 Room Block also include the following:
• Complimentary in-room internet connectivity**
• Complimentary use of Kalina Health & Fitness
• Exclusive Universal Orlando theme park benefits - Click here for more details.

* Rooms are subject to availability and applicable sales and local taxes, so book your accommodations today.
** Premium wireless access is complimentary for up to 4 devices per room for a 24-hour period 1pm to 1pm.

Conference Location
Loews Royal Pacific Resort
6300 Hollywood Way
Orlando, Florida, 32819

Hotel Package
If you add the hotel Hotel Package when registering, a hotel room at either Loews Royal Pacific Resort or Loews Sapphire Falls Resort will be reserved for you. The conference center where the event is being held is located between the hotels and both hotels are connected to the conference center.

For the most up-to-date hotel options, visit the LIVE! 360 Travel Page.

Combine Business and Pleasure!
Make Your Time at Live! 360 Orlando Even Better by bringing the family and staying at one of the Loews Hotels at Universal Orlando®, home to all Visual Studio Live!, SQL Server Live!, TechMentor, Artificial Intelligence Live!, Office & SharePoint Live!, and Cloud & Containers Live! Orlando sessions and activities.

Hotel Package
If you add the hotel Hotel Package when registering, a hotel room at either Loews Royal Pacific Resort or Loews Sapphire Falls Resort will be reserved for you. The conference center where the event is being held is located between the hotels and both hotels are connected to the conference center.

For the most up-to-date hotel options, visit the LIVE! 360 Travel Page.

Conference Location
Loews Royal Pacific Resort
6300 Hollywood Way
Orlando, Florida, 32819

Conference Venue, Hotel Deals & Travel

Conference Location
Loews Royal Pacific Resort
6300 Hollywood Way
Orlando, Florida, 32819
TRAVEL

CAR RENTAL DISCOUNTS
Avis Rent-a-Car is offering a discount on car rental for Live! 360 Orlando attendees. To receive the discounted rates, call Avis at 800.331.1600 and use the Avis Worldwide Discount (AWD) number D005872, or click here to make your reservation online.

AIRPORT TRANSPORTATION
(Orlando International Airport)

Loews Hotels at Universal Orlando do not provide airport transportation, but there are several options:

Ride Sharing: All Ride Sharing Providers - such as Uber, Lyft and Wingz - can pick up on the Arrivals Level (Level 2) at Orlando Airport.

Mears Transportation: 800.759.5219
Mears provides convenient and affordable transportation between the Orlando International Airport and both Loews Royal Pacific Resort and Loews Sapphire Falls Resort. One way fares start at $18. This is a shuttle service that will have other stops along the way. Mears can also assist with sedan reservations or advance taxi reservations.

Taxi: One way fares from Orlando International Airport (MCO) average $45-$50

DIRECTIONS TO THE ROYAL PACIFIC RESORT AT UNIVERSAL ORLANDO
Located in Universal Studios Florida, Loews Royal Pacific Resort is only 15 minutes from Orlando International Airport.

From Turnpike (North and South):
- Take Exit 259 (I-4 interchange) onto I-4 West (Tampa)
- Take Exit 748 (Universal Studios) and get in the right lane
- At traffic light, turn right onto Hollywood Way
- Loews Royal Pacific Resort entrance is second entrance on the right

From Turnpike (West and East):
- Take I-95 South to Exit 260B (I-4 West towards Orlando)
- Take I-4 West to Exit 74B (Universal Studios) and get in the right lane
- At the traffic light, turn right onto Hollywood Way
- Loews Royal Pacific Resort entrance is second on the right

From Turnpike (South and South):
- Take Exit 259 (I-4 interchange) onto I-4 West (Tampa)
- Take Exit 748 (Universal Studios) and get in the right lane
- At traffic light, turn right onto Hollywood Way
- Loews Royal Pacific Resort entrance is second entrance on the right

From Downtown Orlando (I-4 West):
- Take I-4 West to Exit 74B (Universal Studios) and get in the right lane
- At traffic light, turn right onto Hollywood Way
- Loews Royal Pacific Resort entrance is second on the right

From Orlando International Airport:
- Take the North exit out the airport onto Beachline Expressway (SR528) West (International Drive, Convention Center)
- Continue on Beachline and take I-4 East
- Take Exit 75A (Universal Studios) and get in the left lane
- At traffic light, turn left on Universal Blvd.
- At the second traffic light, turn left (Hollywood Way)
- Loews Royal Pacific Resort entrance is 1/3 mile on your left

Rates shown are discounted for Live! 360 attendees and subject to change without prior notice.

UNIVERSAL ORLANDO® THEME PARK

Ticket Information
Looking to relax and have some fun after a long day of learning? When you stay with us at the Loews Royal Pacific Hotel, you’ll receive some great perks if you plan to head over to Universal Orlando® Theme Park - be sure to take advantage of everything our hotels have to offer!

Theme Park Tickets
Click here to purchase Universal Orlando® theme park tickets.

After 2pm Convention Tickets
Once you arrive and check in for Live! 360, you can show your conference badge at the Universal Orlando ticket desk in the lobby of either conference hotel and purchase after 2:00pm discounted tickets.

Note: you need a Universal Orlando® theme park “Park-to-Park” pass to ride the Hogwarts™Express train between the two parks to experience all of the Harry Potter™ magic and excitement.

DISCOVER ORLANDO AND THE UNIVERSAL ORLANDO AREAS
Visit www.orlando.info.com for information on places to visit and things to do in the Orlando area. You can also visit www.universalorlando.com/convention for more information on Universal Orlando® Resort.

For more travel information, visit: live360events.com/travel

FOR MORE TRAVEL INFORMATION, VISIT: live360events.com/travel

REGISTER NOW AT LIVE360EVENTS.COM/ORLANDO
Registration Packages

SIGN UP for the conference package that best meets your schedule and needs!

Register now at live360events.com/orlando

**LIVE! 360 6-DAY CONFERENCE PACKAGE (5-DAY + HANDS-ON LAB)**

<table>
<thead>
<tr>
<th>SUMMER SPECIAL PRICING THROUGH AUGUST 16</th>
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<tbody>
<tr>
<td><strong>$2,595</strong></td>
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<td>SAVE $500 off standard pricing</td>
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**ADD THE 6-DAY HOTEL PACKAGE: $1,200**

The Live! 360 6-Day Hotel Package includes 6 nights at the Royal Pacific Resort OR Sapphire Falls Resort (room and tax only) – checking in Saturday, November 16 and checking out Friday, November 22.

**SIGNING UP 3 OR MORE?**

Group Discounts are available! Turn to page 110 for pricing details.

**ARE YOU A VISUAL STUDIO LIVE! OR LIVE! 360 ALUMNUS?**

Alumni discounts are available! Turn to page 111 for pricing details.
**LIVE! 360 5-DAY CONFERENCE PACKAGE**

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<tr>
<td><strong>Your five day all-access pass to every keynote, session, workshop and event November 18-22, 2019 for all six co-located conferences.</strong></td>
<td><strong>$1,995</strong></td>
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**ADD THE 5-DAY HOTEL PACKAGE: $1,000**

The Live! 360 5-Day Hotel Package includes 5 nights at the Royal Pacific Resort OR Sapphire Falls Resort (room and tax only) – checking in Sunday, November 17 and checking out Friday, November 22.

**SIGNING UP 3 OR MORE?**

Group Discounts are available! Turn to page 110 for pricing details.

**ARE YOU A VISUAL STUDIO LIVE! OR LIVE! 360 ALUMNUS?**

Alumni discounts are available! Turn to page 111 for pricing details.
REGISTRATION PACKAGES (continued)

LIVE! 360 3-DAY CONFERENCE PACKAGE

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ADD THE 3-DAY HOTEL PACKAGE: $600

The Live! 360 3-Day Hotel Package includes 3 nights at the Royal Pacific Resort OR Sapphire Falls Resort (room and tax only) – checking in Monday, November 18 and checking out Thursday, November 21.

SIGNING UP 3 OR MORE?

Group Discounts are available! Turn to page 110 for pricing details.

ARE YOU A VISUAL STUDIO LIVE!
OR LIVE! 360 ALUMNUS?

Alumni discounts are available! Turn to page 111 for pricing details.
REGISTRATION PACKAGES (continued)

### FULL DAY HANDS-ON LAB PASS

<table>
<thead>
<tr>
<th>The Live! 360 Orlando Hands-on Lab Pass grants you access to one full-day hands-on lab on Sunday, November 17, 2019.</th>
<th>SUMMER SPECIAL PRICING THROUGH AUGUST 16</th>
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### WORKSHOP PASS (1 DAY)

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<tr>
<th>The Live! 360 Workshop Pass grants you access to one full-day workshop at Live! 360 Orlando on either Monday, November 18 OR Friday, November 22, 2019.</th>
<th>STANDARD PRICING THROUGH NOVEMBER 17</th>
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**REGISTRATION PACKAGES** (continued)

**6-DAY LIVE! 360 GROUP PACKAGE**

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</table>
| 6-Day Live! 360 Group Package is your six day all-access pass to every keynote, session, workshop, hands-on lab and event November 17-22, 2019 for all six co-located conferences. | $2,295 
SAVE $500 
per person, off standard pricing | $2,395 
SAVE $400 
per person, off standard pricing | $2,495 
SAVE $300 
per person, off standard pricing | $2,795 |
|                      | **expired**                                |                                               |                                      |                                     |

**ADD THE 6-DAY HOTEL PACKAGE: $1,200**

**5-DAY LIVE! 360 GROUP PACKAGE**

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SAVE $500 
per person, off standard pricing | $1,795 
SAVE $400 
per person, off standard pricing | $1,895 
SAVE $300 
per person, off standard pricing | $2,195 |
|                      | **expired**                                |                                               |                                      |                                     |

**ADD THE 5-DAY HOTEL PACKAGE: $1,000**

**GROUP DISCOUNTS** are available for companies who bring 3 or more people. The Group discount is only available for the 6-Day and 5-Day Conference Packages. 

For questions regarding group registration or for more information please call 949.296.9840.
### Live! 360 Alumni 6-Day Package (5-Day + Hands-On Lab)

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**ADD THE 6-DAY HOTEL PACKAGE: $1,200**

The Live! 360 6-Day Hotel Package includes 6 nights at the Royal Pacific Resort OR Sapphire Falls Resort (room and tax only) – checking in Saturday, November 16 and checking out Friday, November 22.

### Live! 360 Alumni 5-Day Package

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