

MAY 21 - 24, 2017
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ORLANDO, FL

150+ Sessions
25+ Full-day workshops
80+ Microsoft and industry experts
Evening events



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THE INTERSECTION OF TECHNOLOGY

◆ Visual Studio ◆ ASP.NET ◆ Azure ◆ Angular2 ◆ C# ◆ Office 365
◆ SQL Server ◆ SharePoint ◆ Cloud ◆ PowerShell ◆ DevOps ◆ .NET Core 2.0



SCOTT GUTHRIE
Executive Vice President, Cloud and Enterprise Group, Microsoft



SCOTT HANSELMAN
Principal Community Architect for Web Platform and Tools, Microsoft



KIMBERLY L. TRIPP
President/Founder, SQLskills.com



JEFFREY SNOVER
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SCOTT HILLIER
Office 365 MVP, Independent Consultant



JULES KREMER
TPM, Angular Team, Google



DON JONES
Author, Trainer, Pluralsight



BOB WARD
Principal Architect for the Microsoft Data Group, Microsoft



MICHELE LEROUX BUSTAMANTE
CIO, Architect, Solliance, Inc.



STEPHEN FLUIN
Developer Advocate, Google



SCOTT HUNTER
Principal Program Manager, Microsoft



DAN WAHLIN
Developer, Google GDE and Microsoft MVP, The Wahlin Group

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Walt Disney World Swan and Dolphin Resort

The next wave of technology is here!

Get the insider's scoop this spring.

Shirley Brothers

KEYNOTE & GENERAL SESSION SPEAKERS, PANELISTS



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**MICHELE LEROUX
BUSTAMANTE**
CIO, Architect,
Solliance, Inc.



JEFF FRITZ
Senior Program Manager,
Microsoft

2017

Catch the wave of new releases!

ASP.NET Core SQL Server 2016 Azure
Visual Studio 2017 SharePoint 2016

This is the event to which you can bring the whole team; as an attendee, you can go to all of the co-located shows' sessions!

Developers • Systems Analysts • Architects • DBAs • CIOs • IT Managers
Software Engineers • Network Administrators • Digital Analysts
Consultants • Security Analysts

- T**rain with 80+ Microsoft and industry experts delivering 150+ in-depth sessions
- R**ealize instant ROI with experts' real-world solutions
- A**cquire the latest training on the 2017 new releases
- N**avigate the latest techniques for architecting for the cloud, big data and DevOps
- S**ecure your data environment with tips and tricks from our security gurus
- F**ind out what steps to take to integrate new technologies
- O**utpace the competition by diving into the new product releases
- R**enew and establish relationships with your peers from around the world
- M**eetups and receptions at a fun location to relax and network

YOUR CONFERENCE REGISTRATION INCLUDES: Three continental breakfasts, three lunches, breaks, reception, T-shirt, conference backpack, and access to all sessions in co-located shows. On workshop days, only workshop attendees receive lunch.

GROUP DISCOUNTS AVAILABLE

When more than three people from the same company are registering at the same time, call 203-264-8220, 9-5 EST, Monday through Friday to ask about your discount.

SATURDAY, MAY 20, 2017	
9:00am–4:00pm	Pre-Pre-Conference Workshops
SUNDAY, MAY 21, 2017	
7:30am–4:00pm	Registration Opens
9:00am–4:00pm	Pre-Conference Workshops
6:00pm	Opening Keynote – Scott Guthrie <i>Executive Vice President, Microsoft</i>
MONDAY, MAY 22, 2017	
7:30am–5:00pm	Conference Registration
7:30am–8:30am	Continental Breakfast
8:30am–9:45am	Keynote
9:45am–10:30am	Coffee Break, Expo Hall opens
10:30am–11:30am	Breakout Sessions
11:30am–11:45am	Break
11:45am–12:45pm	Breakout Sessions
12:45pm–2:00pm	Lunch
2:00pm–3:00pm	Breakout Sessions
3:00pm–3:30pm	Break
3:30pm–4:45pm	Breakout Sessions
4:45pm–6:00pm	Expo Hall Opening Reception
TUESDAY, MAY 23, 2017	
7:30am–5:00pm	Conference Registration
7:30am–8:30am	Continental Breakfast
8:30am–9:30am	Keynote
9:30am–10:00am	Coffee Break, Expo Hall open
10:00am–11:00am	Breakout Sessions
11:00am–11:15am	Break

TUESDAY, MAY 23, CONTINUED	
11:15am–12:15pm	Breakout Sessions
12:15pm–1:30pm	Lunch, Expo Hall open
1:30pm–2:30pm	Breakout Sessions
2:30pm–3:00pm	Break, Expo Hall
3:00pm–4:00pm	Keynote/Breakout Sessions
4:00pm–4:15pm	Break
4:15pm–5:15pm	Keynotes / General Sessions
5:15pm–6:15pm	Expo Hall open, Surface Book drawing
7:00pm	Evening Events
WEDNESDAY, MAY 24, 2017	
7:30am–4:00pm	Conference Registration
7:30am–8:30am	Continental Breakfast
8:30am–9:30am	Keynote
9:30am–10:00am	Coffee Break
10:00am–11:00am	Breakout Sessions
11:00am–11:15am	Break
11:15am–12:15pm	Breakout Sessions
12:15pm–1:30pm	Lunch
1:30pm–2:30pm	Breakout Sessions
2:30pm–3:00pm	Ice Cream Break
3:00pm–4:00pm	Breakout Sessions and Panels
4:00pm–4:15pm	Break
4:15pm–5:00pm	Closing and Prizes
THURSDAY, MAY 25, 2017	
9:00am–4:00pm	Post-Conference Workshops

SESSIONS

ASP.NET Visual Studio
Azure <anglebrackets/>

2017 represents the 15th anniversary of .NET and the 20th anniversary of Visual Studio. And while both products are mature, they have also undergone remarkable evolutions in implementation and design to make them well suited for modern development. The Roslyn project has made the compiler a service and opened a whole new world for how you use C# and VB.NET. The Core edition of .NET has lifted the Windows requirement to everything you do – if Linux and OS/X are important in your world, .NET can help you. Visual Studio continues to evolve as a tool that provides an all inclusive IDE that you can code, debug, and deploy in. The latest incarnations of Visual Studio make it far easier to bring your own favorite tools into the integrated environment. The diversity of projects that Visual Studio supports today is almost overwhelming: From WPF and WinForms client apps to back end services running WinAPI and/or WCF, modern web application using Angular and other front-end libraries, cross-platform mobile applications with Xamarin or Cordova, and the latest incarnation of Universal Windows Platform (UWP) applications that work on desktop, laptop, tablet, and phone. Struggling to sort out all the options? That's what we're here for – come and engage with our experts at DEVintersection in Orlando this spring!

KEYNOTE

Opening Keynote

Scott Guthrie
Donovan Brown

Microsoft
Microsoft

KEYNOTE

Microsoft's Open Source Journey: Are We Done? Or Just Getting Started?

Scott Hanselman

Microsoft

KEYNOTE

Angular Applications: Large Scale, Across Large Teams with Large Results

Stephen Fluin

Google

Angular is a platform that encompasses the needs of developers working individually, in big teams, for any size apps across the web, mobile and desktop. In this talk we'll focus on how Angular helps developers reuse their expertise across these platforms to deliver amazing apps fast.

Securing Web APIs from JavaScript/SPA Applications

Brock Allen

BrockAllen.com

Modern web development means that more and more application code is running in the browser as JavaScript. This architectural shift requires us to change how we perform authentication and authorization. Fortunately, using modern protocols such as OpenID Connect, you don't need to invent your own solution for this new environment. This session will show you the modern approach for browser-based JavaScript applications to authenticate users, and perform secure web api invocations. As

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you might expect, security is sufficiently complex and so even modern security comes with its own set of challenges. Luckily, we will show off some libraries that help manage this complexity so your application doesn't have to.

Securing Web APIs from Mobile and Native Applications

Brock Allen

BrockAllen.com

Mobile devices and applications are becoming the prominent mechanism for users to operate digitally. Developing for these platforms is new for many developers and how to build secure applications for these environments is crucial. Fortunately, inventing your own security is not necessary (or recommended) and instead you can rely upon the OpenID Connect protocol. This session shows how to use this protocol to authenticate your users, as well as gain secure access to the backend APIs that support your applications. In addition to these basics, we will discuss more advanced security features of the protocols including PKCE and PoP.

Supercomputing with Microsoft's Task Parallel Library

Dr. William L. Bain

ScaleOut Software, Inc.

As web and mobile applications face the challenge of quickly analyzing huge volumes of live data, developers are turning to data-parallel computing techniques to tackle these daunting computations. Microsoft's Task Parallel Library provides powerful operators for parallel computing on a multi-core server, but where should developers turn to handle data sets that outstrip the resources of a single server? This session will show how a distributed, in-memory data grid with an integrated compute engine can enable applications to run familiar TPL-based, data-parallel applications on a cluster of servers and achieve near supercomputer-level performance.

Key Takeaways:

- Learn how to scale out computation across a cluster of commodity servers which together have enough DRAM to hold the application's state and enough cores to process it quickly.
- Learn how to leverage familiar concepts from .NET's Task Parallel Library (TPL) and apply them to data-parallel computing on a cluster to keep the programming model simple.
- By marrying the clean, data-parallel semantics of the TPL's Parallel.ForEach operator with the scalable in-memory storage and computing power offered by an in-memory data grid (IMDG) or distributed cache, the distributed ForEach operator gives developers an easy-to-use and cost-effective bridge to supercomputer performance.

ASP.NET Core and Angular

Ward Bell

Ideablade

ASP.NET Core is a total redesign of Microsoft's ASP.NET platform with an eye toward high performance, cross-platform, cloud-hosted applications.

Google's Angular is a total redesign of its immensely popular AngularJS platform for building client-side HTML/JavaScript applications running in the browser (SPAs)

After a brief introduction to both, this talk turns to the tools, techniques, patterns and practice that bring them together.

Discover the Angular application sweet spot, how to develop Angular apps in TypeScript in Visual Studio, and how to interact with the ASP.NET Core Web API.

We'll also dip into BreezeJS as a server-to-client data management layer that spans SQL Server, EntityFramework, Web API, and Angular.

Observables in Angular

Ward Bell

Ideablade

Observables are a functional approach to streams of events.

Observables can represent animations, user interactions (clicks, mouse moves, etc), ajax, web sockets, arrays, iterables and much more. They're richer than Promises and much easier to read, write, and compose than traditional event handler callbacks. Think of Observables as LINQ for events

RxJS is the Observables implementation favored by Angular. Many Angular APIs return RxJS Observables. Other frameworks are jumping on board. Why not you?

This presentation covers what they are, when to use them, which RxJS operators you should know, and how to cope with errors as well as success.

Message Brokers and Containers – The New ESB is “No ESB”

Michele Leroux Bustamante

Solliance, Inc.

A microservices strategy favors “dumb pipes” and “smart endpoints” – unlike the traditional ESB. Services own the business logic and can evolve independently with the demands of the business domain. Messages are a mechanism for decoupling, discovery, choreography of system workflow, event sourcing, scale and audit – but they know nothing of the business domain. This session will explore how to design a microservices solution that relies on messages and event sourcing at the core. You'll learn techniques for approaching the design, all the way through to implementation. While concepts discussed in this session are not platform specific, Michele will illustrate with demos using Kafka, Docker and Azure Container Service based on the Mesosphere DC/OS platform.

Scaling Containers Solutions with Azure Container Service and Mesosphere DC/OS

Michele Leroux Bustamante

Solliance, Inc.

Azure Container Service makes it easy to provision a container-based solution in Azure – based on Mesosphere DC/OS. While Azure provides you with the infrastructure management, automation and visibility into those assets, DC/OS provides a solid platform for container orchestration, monitoring, scale and self-healing. This session will show you how to set up a cluster, deploy your first containerized application to DC/OS, configure load balancing at multiple service tiers, and show you how to setup self-healing and scale. You'll get a kick start toward configuring your container and Docker applications for scale and operational success, including the aspects of Azure that contribute at the infrastructure level.

C# 7 – Simplify and Improve Your Code in 2017

Dustin Campbell

Microsoft

C# can be developed and run on more and more platforms, and thanks to the “Roslyn” language engine you can increasingly make your own tooling for it. C# 7 embraces several new features for working better with data, such as tuples and pattern matching. Come see how you can start using C# 7 today!

Check the conference website for the latest information, DEVintersection.com

Sessions and speakers are subject to change.

SESSIONS

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Dig into C# and Visual Basic Code-focused Development with Visual Studio

Dustin Campbell

Microsoft

Microsoft Visual Studio is a productivity game-changer for C# and Visual Basic. The .NET Compiler Platform (Roslyn) enables many new experiences that will change the way you write and debug code. In this session, we dig into features that bring a new level of awesome to the C#/VB languages and IDE experience. Learn about new language features, refactoring support, major debugging enhancements, code aware frameworks, and much more.

Easy Web Application Security in Node.js and Angular

Brian Clark

Independent Consultant

In this session, we'll cover some of the small steps we can take to secure our web applications and demonstrate those steps in a Node.js, Express and Angular web application. You'll learn about three vulnerabilities and the steps to take in order to mitigate them. We'll also see how existing Node.js modules can make it simple to implement these mitigation techniques.

C# 7

Kathleen Dollard

Crystal MEF Lab

The newest version of C# makes every day code better while it moves us a little closer to functional programming. This talk covers how the new features simplify your current code without requiring obscure ways of thinking.

Pattern matching lets you drastically reduce the number of times you need to type if (varName != null). Pattern matching also makes beautiful switch statements, but you need to understand how the rules have changed. Prior to C# 7, the available options for returning multiple values from a method could most kindly be called contortions. C# 7 tuples solve this and other problems because they neatly and efficiently wrap transient data. Deconstruction, even overloaded deconstruction, let's you extract just the values you want. You can use “out vars” to skip extra declarations.

Learn about these features along with literals, local functions and a couple of niche features. As a bonus, you'll see the new features in the next version of Visual Studio. You'll leave ready to upgrade to C# 7 and you'll understand the role it plays in our gradual move toward functional programming.

Functional Techniques for C#

Kathleen Dollard

Crystal MEF Lab

You are effective with the imperative, object oriented core of Java or .NET but you look longingly at the winsome smile of functional languages. If you play with your language's functional features, never quite sure you're getting it right, or taking full advantage of them, this session is for you. You'll learn which code to attack with functional ideas and how to do it. You'll look at code similar to what you write every day and see it transform from long difficult to follow code to short code that's easy to understand, hard to mess up and straightforward to debug. Better yet, functional approaches ensure that patterns like async, logging and exception handling are consistent and transaction usage is clear. Apply these techniques while leveraging delegates, lambda expressions, base classes and generics.

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Bots Are the New Enterprise Apps

Daniel Egan **Microsoft**

While many of the bots that you have seen can help you buy tickets to a movie, or book flights, or even add a mustache to a picture, bots can also be integrated into the enterprise. From bots that integrate with Jenkins to help you manage your build process, to handling first level support in a call center, conversation bots can be deployed in an enterprise in a very effective way. Let your users interact with systems in the communication channels they prefer (Facebook, Slack, Kik, Skype, email, sms) in one integrated solution. In this session, we will show you how to utilize the BotFramework to build bots for your enterprise.

How to Think About Angular

Stephen Fluin **Google**

Angular is a platform that plays many roles across different organizations. Learn about the ways that Angular sees its own role as part of the development efforts of modern companies, and learn about various models for incorporating Angular into your teams and processes.

Bulletproof Transient Error Handling with Polly

Carl Franklin **App vNext**

Connected applications only work when connected. What happens if the network breaks temporarily? Will your system recover smoothly or pitch a fit? Using an OSS project called Polly (available on GitHub and now part of the .NET Foundation) you can handle this and many other transient situations with elegance and fluency. Polly lets you define retry policies using standard patterns such as retry, retry forever, wait and retry, and circuit breaker. Learn how to make your system bulletproof with Polly and a little know-how.

How Using DevOps Practices Can Make You a Better Developer

Robert Green **Microsoft**

Improved deployment frequency. Faster time to market. Lower failure rates. Faster fixes and recovery time. These are some of the promises of DevOps. Whether you are an individual developer or working in a team, you can take advantage of DevOps practices. In this session, aimed at developers who are new to DevOps, you'll see how you can leverage the concepts of agile development, continuous integration and continuous delivery to build better software. And you'll see how to do this all from within Visual Studio and Visual Studio Team Services.

What's New in Visual Studio 2017

Robert Green **Microsoft**

Visual Studio 2017 has arrived and, no surprise, offers a ton of exciting new features. This session will provide a whirlwind tour of what's new in the latest version of Visual Studio. You'll see enhancements to code navigation, IntelliSense, refactoring, code fixes, and debugging. You'll see how live unit testing automatically runs impacted unit tests in the background as you edit your code. You'll see new language features, new tools for building mobile and UWP apps, new and improved tools for building apps powered by Azure, and more.

Introducing .NET Core 2.0

Jeff Fritz **Microsoft**

.NET Core burst onto the scene with cross-platform support. In the time since its initial release, the team has added hundreds of new APIs to make development easier than ever. We will also

look at .NET Standard and what this means for your projects: Why would I want to use .NET Standard? How does this make my project better? What's involved in making a .NET Standard project? We will review the new capabilities of .NET Core 2.0 and how to update your application from .NET Core 1.0 to 2.0.

.NET Framework Improvements, Tips, and Tricks

Jeff Fritz **Microsoft**

There's a lot of talk about the .NET Core framework, but what about the .NET Framework for Windows? With the 4.7 release of .NET and the Windows 10 Creators Update, there are lots of improvements that you can use in your existing applications. Join Jeff Fritz as he demos many of the cool updates in the .NET Framework that you can use in your ASP.NET and windows applications.

Querying NoSQL with SQL: HAVING Your JSON Cake and SELECTing it too

Matthew D. Groves **Couchbase**

Until recently, agile business had to choose between the benefits of JSON-based NoSQL databases and the benefits of SQL-based querying. NoSQL provides schema flexibility, high performance, and elastic scaling, while SQL provides expressive, independent data access. Recent convergence allows developers and organizations to have the best of both worlds.

Developers need to deliver apps that readily evolve, perform, and scale, all to match changing business needs. Organizations need rapid access to their operational data, using standard analytical tools, for insight into their business. In this session, you will learn the ways that SQL can be applied to NoSQL databases (N1QL, SQL++, ODBC, JDBC, and others), and what additional features are needed to deal with JSON documents. SQL for JSON, JSON data modeling, indexing, and tool integration will be covered.

Developing for Azure on a Mac

Brady Gaster **Microsoft**

With the introduction of .NET Core, many developers who have previously been married to Windows to do their .NET development are now investigating other platforms. By the same token, many developers familiar to the Mac who have been unable to use .NET are now interested in trying it out but aren't sure what tools they'll need. This session will target both audiences and take an intermediate-level tour of how to get started developing .NET applications on a Mac using Visual Studio Code and a series of command-line utilities and extensions. We'll also investigate how the Azure Tools Extension for Visual Studio Code can be useful when paired with the Azure Portal's in-browser tools to make developing your Web, Mobile, and RESTful APIs on Azure easy, and how Azure Containers and Docker can bring true portability and flexibility to your DevOps story.

Bootstrap 4.0 – What's New?

Joe Guadagno **Independent Consultant**

Bootstrap is the world's most popular framework for building responsive, mobile-first sites and applications. Inside you'll find high-quality HTML, CSS, and JavaScript to make starting any project easier than ever. Bootstrap 4.0 is just around the corner (or here already). Let's take a look at what's new in version 4, what is no longer available, and what you have to do to upgrade your applications. Then we'll take a look at some of the new features in detail like the Flexbox, Cards, improved NavBar and much more!

Build Native Mobile Apps Using JavaScript and Ionic

Joe Guadagno **Independent Consultant**

Ionic lets you build mobile apps using only JavaScript. The Ionic framework is a free and open source library of mobile-optimized HTML, CSS and JS components along with tools for building highly interactive native and progressive web apps, built with Sass, optimized for AngularJS. In this session, you will see how you can build rich powerful, robust, mobile applications that are clean simple and functional. These applications can use Cordova, Phonegap to deploy natively or be a modern-day web application. All you need to know for this session is HTML, CSS, and JavaScript: – the building blocks of the web. During this session, you'll even learn AngularJS as you work with Ionic.

Faster, Smaller, Better – Visual Studio 2017

Scott Hunter **Microsoft**

Visual Studio 2017 is now available for developers, and it is packed with new features to help you. From improved web tools and new unit testing capabilities, to improved profiling and language features, Scott will show you all of the cool features that make developing with Visual Studio an amazing experience. You'll learn tips and tricks that will help improve your applications immediately.

.NET For Developers in 2017

Scott Hunter **Microsoft**

With the release of Visual Studio 2017 and Visual Studio for Mac, as well as .NET Core 2.0 framework, a lot has changed in the .NET frameworks and tools. In this demo-filled session, Scott will highlight the most important new features in the .NET frameworks, languages and tools that will make you a more productive developer in the year ahead.

Lessons Learned from Real-world Xamarin.Forms Projects

Nick Landry **Microsoft**

Sometimes it's not the 101 tutorial you need to help you in your development journey, but to just talk to someone who has experience in implementing that technology in the real world. What are the gotchas, things to avoid, or best practices others have learned that can give you a leg up in implementing a new technology within your current architecture? In this session, we will cover real-world considerations in Xamarin.Forms projects, such as UI design considerations when sharing a user experience across iOS, Android and Windows, including navigation paradigms, styling, and supporting older versions. We'll also look at code-sharing pitfalls and best practices, choosing an MVVM framework, application resource sharing, and leveraging plug-ins and the Dependency Service to leverage platform-specific code. Lastly, we'll talk about mobile DevOps, including source control in a cross-platform environment, gathering application analytics, crash logs, and handling app flighting during development and beta testing. Come learn from a wealth of knowledge accumulated in real-world cross-platform projects, and get ready to build your own.

Mobilizing Your Existing Enterprise Applications

Nick Landry **Microsoft**

As an enterprise developer, your task is not just building projects from the latest and greatest technology but also bringing your

current systems into the mobile first world. In this session, we will show you can mobilize your existing enterprise applications without the need for a total rewrite. We'll explore how current server components, services and databases can be exposed via a Web API, and also how you can take advantage of a hybrid cloud approach to extend your on-premises assets. Next, we'll discuss how to design a cross-platform mobile solution based on Xamarin to run on iOS, Android and Windows devices. We'll cover code sharing, authentication & authorization, data synchronization and offline access, and other best practices. Extend the longevity and the reach of your existing systems by transforming them with maximum reuse for the mobile first, cloud first world.

The Rise of JavaScript-Driven Native & NativeScript

Rob Lauer **Progress**
Jen Looper **Progress**

For nearly a decade, developers and IT organizations have been struggling to find the right way to build and maintain apps for the many platforms users depend on daily. Writing natively for every platform is still expensive, and many of the cross-platform solutions to date have forced developers to make compromises that hurt user experience. The industry has failed to produce app development solutions that deliver the code and skill portability IT leadership desires, with the uncompromised, rich experiences users demand. Fortunately, a new wave of next generation platforms promises to radically improve the state of the art. "JavaScript-driven Native" platforms, like NativeScript, finally combine the skill and code portability of the web with the unlimited power of native platform UI. Put an end to your cross-platform app development woes and join this session to learn about JavaScript-driven Native and the open source platforms like NativeScript leading the way.

How to Build a Great OSS Community in Ten Easy Steps

Rob Lauer **Progress**
Jen Looper **Progress**

So you have an Open Source (FOSS) project. And you need someone to use it? A common problem! As it turns out, the success of a FOSS project is directly dependent on the health of its community. In this session, we'll share ten tips on how to build a great community from scratch, based on our success building the NativeScript community, now almost 3000 strong, on Slack and growing every day. Learn from our successes and our mistakes and leave with some concrete methods on how to build your community from zero to a whole bunch of heroes!

Advanced Topics in C#

Jesse Liberty **Independent Developer**

This session will cover a number of advanced C# concepts including tuples, deconstruction, lambda expressions, asynchronous methods, extension methods and more

Fundamentals of Test Driven Development

Jesse Liberty **Independent Developer**

This session assumes no prior experience with unit testing and dives into the principles and practical aspects of TDD. A real-world demonstration will bring these concepts together.

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TypeScript for C# Developers

Jesse Liberty Independent Developer

C# developers come to TypeScript from a very different perspective than JavaScript developers. In this session, we will cover TypeScript as a first class language and show its similarities (and differences) to C#.

Adding Real-time Features to Your Applications with SignalR

Javier Lozano Independent Consultant

Ionic lets you build mobile apps using only JavaScript. The Ionic team wondered how hard it is to add real-time eventing to your ASP.NET application? SignalR is a new library that makes bi-directional communication easy and fun. In this session, we'll cover the features and approaches SignalR offers on both client and server sides. If you're interested in adding real-time eventing to your applications today, you don't want to miss this session.

Software Project Design

Juval Lowy IDesign, Inc.

Much as you need to design the system, you must also design the project: from scheduling resources behind the services, the staffing distribution, examining the planned progress, and even to validating your plan, and accommodating changes. This requires understanding the inner dependencies between services and activities, the critical path of integration, the available floats, and the risks involved. All of these challenges stem from your design and addressing them properly is a hard-core engineering task – designing the project. In this intense session, Juval Lowy shares his approach to software project design, along with his unique insight for delivering software on schedule and budget. You will also see how to deal with common misconceptions and typical roles and responsibilities in the team.

Azure for ASP.NET Developers

Javier Lozano Independent Consultant

Microsoft Azure is a simple, flexible, and open platform that makes developing Web applications extremely easy. In this session, we'll cover the features, practices, and patterns ASP.NET developers should consider when targeting the Azure platform. If you're curious on how you can take your applications, current and future, to the next level with ease, you won't want to miss this session.

An Introduction to React

Elijah Manor LeanKit

Facebook's React library has received quite a bit of attention lately. In this session, we will describe what React is, who uses it, and why it's a compelling technology to use.

After a high level overview, we will start to unpack the ins and outs of React components (creation/JSX/props/state/etc) and then discuss some of the gotchas when first starting development.

"My favorite part of React is what I loved about MooTools: to use it effectively you learn JavaScript, not a DSL; useful your whole career." Ryan Florence

React by itself is fairly small and not overly complex. For a more comprehensive Single Page Application you need much more than just React. To address this concern we will discuss Facebook Flux architecture, introduce the concept of Isomorphic JavaScript, and identify other libraries that are common when building a full application."

Beyond the Basics with React

Elijah Manor LeanKit

Getting started with React doesn't take too long, but there are a lot of other concerns that come along that you, as a developer, will need to understand and tackle. After this session, you will be exposed to concepts that are helpful when creating a large front-end application such as using a flux architecture, applying High Order Components, assessing performance concerns, integrating immutability, leveraging helpful unit testing libraries, and creating your own component pattern library.

CSS for Developers

Elijah Manor LeanKit

If you relate to any of the following personas, you're not alone. CSS for Developers aims to bridge the gap between using CSS to authoring and understanding CSS.

Junior Jacob: Jacob is a junior developer who is new to Front-End Development and is trying to get his head around it. He just finished watching a PluralSight or Treehouse course on web development; he has learned most of the basics, but desires a deeper understanding of foundational concepts.

Back-End Brian: Brian is a back-end developer who has a strong software development background, but CSS makes no sense to him and usually tries to avoid it. When he has to use it, he gravitates towards drop-in solutions such as Twitter Bootstrap, instead of learning how CSS works.

Mid-Level Melissa: Melissa is a mid-level web developer who is proficient in using CSS, but hasn't kept her skills up-to-date. She has a solid foundation and can build most any site asked of her, but the CSS she authors isn't organized well and is not maintainable. She wants to learn newer & more advanced CSS.

The first part of the session is aimed at getting Jacob and Brian up to speed by introducing foundational concepts such as the Box Model, Specificity, Position, Cascading, and Sizing. Along the way, some advanced concepts that Melissa may have missed will be sprinkled in.

As the session progresses, we will cover newer concepts such as Flexbox, Sass (intro/docs/linting), Atomic Design, BEM, Autoprefixer, and the concept of including your styles in JavaScript. Each persona will walk away with a set of tips, tricks, and techniques that help make CSS easier to organize, understand, and maintain.

Visual Studio for Mac Tips & Tricks

Jordan Matthiesen Microsoft

Visual Studio for Mac is a new member of the Visual Studio family for mobile-first, cloud-first development. You get everything you need for mobile, cloud and Mac development. Visual Studio for Mac has support for Xamarin, .NET Core and Azure connectivity. In this session, come hang out with Jordan as he takes you through tips and tricks to help you get the most out of Visual Studio for Mac. Suitable for beginners and experts alike!

Easy Data Access with Entity Framework Core 2.0

Rowan Miller Microsoft

The next evolution of Entity Framework Core is here with the 2.0 release. Join Rowan Miller's demo-filled session as he shows you the new features of the framework and how you can easily work with all of your data sources easily and fluidly in a .NET application. You'll walk away from this session with sample code that will help your .NET projects.

Building Connected and Disconnected Mobile Applications

James Montemagno Microsoft

Creating a great connected experience across multiple platforms is an essential element of great mobile applications. However, what happens when there is little to no connectivity – such as on an airplane or in some foreign countries? Does your mobile app effortlessly synchronize data when the device gets back online? Although users expect and deserve this type of behavior, James maintains that developing your own cloud backend and an API across all operating environments is time consuming and error prone. Even more, managing multiple projects, languages, IDEs, and continuous integration processes is unsustainable in the long run. Fear not! Industry leaders such as Amazon, Couchbase, and Microsoft can help solve this problem on iOS, Android, and Windows mobile devices. Join James to investigate the wide range of options for creating a connected and unconnected mobile experience. Come see a full implementation using the latest features of Azure App Service and mobile apps across iOS, Android, and Windows with Xamarin.

Continuous Integration and Delivery for the Mobile Developer

James Montemagno Microsoft

Everyone seems to be talking about DevOps! What exactly does DevOps mean, what benefits does it offer, and how does it relate to mobile developers and mobile apps? During this session, we will explore the world of DevOps and what parts can easily be adopted into daily development to simplify development life. We will explore a few tools that are available to continuously build and deploy mobile applications immediately to testers and to the app stores. We will learn what tools are available for mobile DevOps, how to leverage continuous integration for building and testing and see an overview of Release Management to testers and app stores.

Go Mobile with Visual Studio, C#, and Xamarin

James Montemagno Microsoft

Xamarin enables C# developers to become native iOS, Android, and Windows mobile app developers overnight. In this session, you will learn how to leverage your existing .NET and C# skills to create iOS and Android mobile apps in Visual Studio with Xamarin. In addition to allowing you write your iOS and Android apps in C#, Xamarin lets you reuse existing .NET libraries and share your business logic across iOS, Android, and Windows apps. This session will also give you the tools to determine how much existing C# code can go mobile to iOS and Android, plus help you determine the architecture necessary to support maximum code sharing and reuse. We will also provide guidance and best practices for handling fragmentation across and within each device platform. During this session, we will cover the Xamarin platform and how to create native iOS, Android, and Windows apps in C#. Moreover, we will really focus on the code with several live coding adventures throughout the entire session. When you leave you will have the knowledge to create your first iOS and Android app in C# with Xamarin in Visual Studio.

Upgrade Your Enterprise UI – A Practical Introduction to XAML

Jerry Nixon Microsoft

XAML is both the past and the future of user interfaces on the Microsoft platform. Born in 2006 with Windows Presentation

Foundation, XAML became the declarative UI of choice for thousands of enterprises and line-of-business applications. From Silverlight to Windows Phone, XAML has graduated to UWP-XAML, the foundational platform for modern apps, Microsoft Office, and the Windows operating system itself. The future is bright for XAML, perhaps it's time you see what it's all about.

XAML Design Patterns You Can Use Today

Jerry Nixon Microsoft

There is no user interface platform more productive than XAML. Developers declaratively mark up applications and a dynamic, high-end user interface quickly takes shape. But is there a better way? Over the past decade, XAML developers have identified common conundrums to solve and have proven many design patterns to solve those problems. Come learn what other XAML developers already know: the most common design patterns applications and the best, easiest way to implement them.

Aurelia Data Binding in Depth

Brian Noyes Solliance, Inc.

Aurelia is a rich framework for Single Page Application development. It has many features that help you in developing rich client apps, but the feature that is most important to bringing it all together is the data binding system in Aurelia. In this session, you will get a deep end-to-end coverage of the data binding capabilities of Aurelia and will learn how to leverage those capabilities while building Aurelia apps.

Getting Started with Aurelia

Brian Noyes Solliance, Inc.

Aurelia is a Single Page Application framework that is getting a lot of traction as an alternative to Angular. It includes a rich data binding system, dependency injection and modules, an intuitive and powerful routing and navigation system, and lots of extensibility throughout. In this session, you will get a quick introduction to the capabilities of Aurelia and how to get started building applications with it.

Hey Cortana, Make My Apps Rock!

Brian Noyes Intermediate Solliance, Inc.

This is the era of digital transformation where even traditionally non-technical companies are building applications that do amazing things for their customers, their internal processes and stay ahead of the competition. The mundane line of business app is getting a new soul, and it is powered by Cortana. In this session, we will introduce the set of services in the Cortana Intelligence Suite so that you are familiar with the powerful building blocks you can incorporate into your ASP.NET and mobile applications. From there we'll leave you with ready-made solutions you can leverage directly in your applications to add capabilities like prediction, advanced analytics and powerful visualizations.

Securing Web Apps and APIs with IdentityServer

Brian Noyes Solliance, Inc.

IdentityServer is an open source framework for building authorization servers that support a number of different authentication and authorization protocols, most importantly

Check the conference website for the latest information, DEVintersection.com

Sessions and speakers are subject to change.

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OAuth, OpenID Connect, and ADFS. In this session, you will learn about IdentityServer capabilities, how to set up IdentityServer to support a single ASP.NET Web Site or Web API, or to set it up as a central authentication server enabling Single Sign On (SSO) from all your client apps.

Angular CLI

John Papa **JohnPapa.net, LLC**
Learn how to be highly productive developing Angular applications. We'll spark the CLI as we awaken an app from scratch. We'll add various features using the CLI, take advantage of template autocomplete, and strategically use code snippets on our way to building an app. Learn how to fly at light speed and with confidence while coding Angular.

Get Started – ASP.NET Core 2.0

Daniel Roth **Microsoft**
Building high-performance cross-platform web applications has never been better than with ASP.NET Core. We will look at some of the new features of ASP.NET Core 2.0 and learn how our applications can benefit. We'll also look at some performance tips and how you can take advantage of them.

Moving Fast without Breaking Things: DevOps for Xamarin and React Native

Ryan Salva **Microsoft**
Xamarin and React Native brought the web's enviable reach to mobile development without sacrificing native UX along the way. While this makes for an amazing dev experience, the "last-mile" is still hard to setup and manage. Continuous integration, testing and distribution often stump even the most disciplined of teams. In this talk, we'll learn how to leverage emerging tools and services to quickly make any GitHub repository "DevOps" ready. Whether you are distributing within your team, sharing with clients or deploying your app to the store, you'll learn how to deliver bug fixes and new features 2, 3... even 4X per day. Then, because it's important to understand your app's in-market health, we'll cover error reporting and user analytics. By the hour's end, you'll know how to set up automatic builds with every pull request, test apps on thousands of real-world devices and 400+ configurations, seamlessly distribute passing builds to beta testers, use CodePush to publish new features and bug fixing without resubmitting to the App Store and monitor production apps for crashes and bugs and collect mobile analytics to understand your users.

Native UI with JavaScript: React Native

Ryan Salva & Jordan Matthiesen **Microsoft**
ReactJS is one of the fastest growing JavaScript frameworks, thanks to its simplicity and shorter development time. Last year, the folks responsible for ReactJS (Facebook) also announced React Native, a way to write cross platform mobile applications for iOS and Android. At F8 this year, Microsoft announced Windows support for React Native. Apps built using React Native offer 100% native UI with full access to native APIs. In this talk, you'll learn how React turns traditional JS development upside down, power user tips to make you successful on day one, strategies to maintain and improve your app over time and the benefits and disadvantages of React Native compared to Xamarin and Cordova.

Catch the wave of new releases!

Moving Application Development and Testing to the Cloud

Jay Schmelzer **Microsoft**
Not every organization and application is ready to move to the cloud for production for a variety of reasons. In this session, we'll show you how organizations that have on-premises deployments are still able to take advantage of the cloud to create a productive and consistent environment for developing and testing their applications.

Moving to ASP.NET Core from ASP.NET 4.6

Jay Schmelzer **Microsoft**
You have existing ASP.NET applications and have heard the value that ASP.NET Core provides but not sure how to get there from where you are today. In this session, we will share proven strategies for successfully modernizing existing ASP.NET solutions from web sites to WCF services to take advantage of ASP.NET Core. This demo heavy session will show real world examples from working with early adopter customers.

ASP.NET Core MVC Features and Filters

Steve Smith **Ardalis**
In MVC applications, it's best to keep as your controllers on a diet. If they're getting bloated, one approach to getting them back into shape is to add filters to handle cross-cutting concerns. Sometimes, it's not individual controllers, but the whole controllers folder, that's getting out of hand. In that case, you may want to break things up by feature, to make things easier to find. You'll be ready to apply both of these techniques immediately after this session.

Black Belt ASP.NET Core Middleware

Steve Smith **Ardalis**
ASP.NET Core relies on components known as middleware for handling individual requests. Learn how middleware are composed together into a request pipeline, and how to author your own full-featured middleware complete with configuration, logging, data access, and dependency injection support. Then package up your middleware as a NuGet package and consume it from any ASP.NET Core app.

The Future Role of AI in Apps for O365

Richard Theodore **K2**
Join K2's Senior Technical Specialist for a presentation showcasing K2 Software to help you achieve Digital transformation through Hybrid Business Process Automation integrated seamlessly with your SharePoint Online, on premise SharePoint environments, and standalone business apps with data integration to key business systems critical to your company's processes. In this session, Richard Theodore, walks you through the journey of digital transformation using low-code K2 business apps.

Get the tools, insights and inspiration you need to help your organization achieve Business Process Automation and be part of the transformation.

Lessons Learned in Porting Legacy ASP.NET Applications to ASP.NET Core

Adam Tuliper **Microsoft**
Are you looking to migrate any of your legacy ASP.NET applications to ASP.NET Core? Our team at Microsoft worked on porting an application that consisted of several frameworks (SignalR, Entity Framework, Nancy, MVC, and custom middleware) to ASP.NET Core. We went in with few expectations and came out with

many solid lessons learned. In this session, I'll walk you through various items we ported and considerations and challenges we hit at each part. While our experience may be different based on the types of applications you are porting, this session should give you immediate insight into porting an application over to ASP.NET Core also running on .NET Core.

Hack-proofing Your Modern Web Applications

Adam Tuliper **Microsoft**
Secure your modern web apps now. Developers are notoriously lax with including security in their applications. In an age of hacking, this session aims to arm the developer with an arsenal of protections to use while developing. This presentation explores the most common attacks on web applications, how they work to exploit your app, and most importantly, how to protect against them.

Angular in 60-ish Minutes

Dan Wahlin **Wahlin Consulting**
John Papa **JohnPapa.net, LLC**
Dive into Angular 2 with Google GDEs Dan Wahlin and John Papa, and learn the key concepts that you need to know to get started building robust Single Page Applications. In this session, you'll learn about core Angular modules, see how they can be imported using TypeScript, learn about data binding, components, services, routing and more.

Docker: Creating the Ultimate Development Environment

Dan Wahlin **Wahlin Consulting**
In this session, Dan Wahlin (part of the Docker Captain's group) will show you how Docker can be used to create a development environment that allows you to mirror services on your local machine. In this session, you'll learn about Docker core concepts, how to automate bringing up multiple application services with Docker Compose, and how images and containers can simplify your development life.

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Integrating Angular with ASP.NET Core RESTful Services

Dan Wahlin **Wahlin Consulting**
In this session, Dan Wahlin will walk you through the process of creating an Angular app that communicates with an ASP.NET Core RESTful service. Throughout the session, you'll learn about the role of RxJS and Observables in Angular services and how they can be used to subscribe to data. You'll also learn how ASP.NET Core can be used to expose JSON data to any type of client

Azure Diagnostics: Fixing Cloud Applications Issues and Performance on Azure

Paul Yuknewicz **Microsoft**
If you want to be 10x more efficient solving cloud reliability and performance issues, this session is for you. We'll cover top issues we encounter in your application and infrastructure, and provide you with modern tools and techniques to effectively monitor, diagnose and fix these issues in all your environments, from dev-test to production at-scale. The session will cover our modern APM metrics and logging technology, Application Insights Profiler, and cloud debugger. Put on your seatbelts for this one!

Getting Started Developing .Net Cloud Applications on Azure Using Visual Studio

Paul Yuknewicz **Microsoft**
Mikkel Mork Hegnhøj **Microsoft**
How easy is it to get .NET applications to run in Azure? Do .NET applications run better in Azure, and how? In this session, we will walk through the unique enhancements we have built in to Azure for giving your .NET applications the best fit in the cloud. You'll learn a fast path to get existing apps up on Azure. You'll see how to build modern scalable cloud app patterns for Web App and worker microservices using Docker. We'll show you how to be incredibly productive building and debugging your app using Visual Studio.

Win a
Microsoft Surface Book

128gb / Intel Core i5



Visit our exhibit area, complete the card, and you could win a Surface Book!

Our Spring 2017 line-up is packed with seven full-day workshops over 2 pre-conference and 1 post-conference day, as well as 39 technology-focused sessions and keynotes from which to choose. Learn proven problem-solving techniques and technologies you can implement immediately. Our focus is around performance monitoring; troubleshooting; designing for scale and performance; cloud; and new features in SQL Server 2012, 2014, and 2016. It's time to determine your 2008 migration strategy – should you upgrade to 2016 directly? This is the place to figure that out! And, unlike other conferences, SQLIntersection speakers are real-world consultants, and members of the Microsoft product development or Microsoft customer service/support teams also known as the best speakers in the SQL Server community!

KEYNOTE Data Science: What Is It and Do I Need It?

Level: 200

Shep Sheppard **Data Science 2 Go LLC**

The term Data Science and predictive analytics is perched at the peak of the Gartner Hype Scale which means from a marketing publicity perspective it's as high as it can possibly get, so what does that mean to you? Data Science has been labeled the sexiest job of the new millennium, but what is it exactly? This session will discuss the real every day uses of "Data Science," what is the make-up of the field from an education perspective, and job perspective as technology companies race to commoditize and democratize the tools.

You will leave this session having a better understanding of what is Data Science is, what it means to you and your company, and how you can get your foot in the door if you are interested in expanding your skills, from feature engineering, data engineering to model design.

KEYNOTE SentryOne: Tools for Productivity and Performance

Level: 200-300

Aaron Bertrand **SentryOne**

Whether you are hosting in your office, in a data center, or in the cloud, SentryOne covers monitoring, alerting, and tuning to help you get the most out of your servers – including servers that aren't running SQL Server. In this session, Aaron Bertrand will guide you through time saving strategies for managing performance across hybrid environments - whether you are running physical or virtual servers, SQL Server, Azure SQL Database, APS, or Azure SQL Data Warehouse. You will see demonstrations of SentryOne software highlighting configuration and performance pitfalls, and leave with a better understanding of performance problems you may be currently missing.

KEYNOTE The Future of the RDBMS Professional

Buck Woody **Microsoft**

In the last 40 years, the "death" of the Relational Database Management System has been predicted over and over – and yet the platform survives. It has adapted, grown, improved and thrived. As a data professional, how does your career change as

Catch the wave of new releases!

the platform changes? Which buzzwords are "real" – what do you need to learn, and what skills do you need to pursue? Come join Buck Woody, Microsoft's "Real-world DBA" and explore the history – and future – of the RDBMS.

Bob Ward is once more presenting his highly-rated keynote in the very last session slot on Wednesday afternoon – right before the *RunAsRadio* closing Q&A session. *Great technical content until the very end of the show!*

KEYNOTE

SQL Server 2016: It Just Runs Faster *Level: 300*
Bob Ward **Microsoft**

Based on the popular blog series, join me in taking a deep dive and a behind the scenes look at how SQL Server 2016 "It Just Runs Faster", focused on scalability and performance enhancements. This talk will discuss the improvements, not only for awareness, but expose design and internal change details. The beauty behind 'It Just Runs Faster' is your ability to just upgrade, in place, and take advantage without lengthy and costly application or infrastructure changes. If you are looking at why SQL Server 2016 makes sense for your business you won't want to miss this session.

Adaptive Query Processing with Azure SQL DB and SQL Server vNext

Level: 200

Joe Sack **Microsoft**

Microsoft is introducing a new family of adaptive query processing improvements that will enhance the performance of workloads that have historically been difficult to tune through classic methodologies. In this session, we will cover three of the new improvements, including interleaved execution for multi-statement table valued functions, batch-mode execution adaptive joins, and batch-mode memory grant feedback. We'll cover how you can determine if your workloads will benefit from these improvements and discuss how these features fit into your existing SQL Server performance tuning and troubleshooting strategy.

Always On Availability Groups: Backup and CHECKDB

Level: 300

Brent Ozar **Brent Ozar Unlimited**

You've decided to implement Always On Availability Groups, but now the really tricky part starts: where should you run backups and DBCCs? You'll get a set of client requirements, design your own maintenance strategy, and then Brent will throw surprise curve balls at your design to see how it handles various real-world emergency scenarios.

Anatomy of a Data Modification: Locking & Isolation

Level: 200

Kimberly L. Tripp **SQLskills.com**

Do you know the logical and physical steps that SQL Server goes through in order to process your data? Did you know that default level of isolation (read committed) is also referred to as inconsistent analysis? Do you know how to reduce the inconsistencies possible in long running queries? Come to this session to demystify locking and isolation and get a better grip on what's really going on when it seems like nothing's going on.

Answering the Question, "What Happened?" with Query Store

Level: 200-300

Erin Stellato **SQLskills.com**

One of the most highly anticipated new features in SQL Server 2016 is Query Store. It's been referred to as the "flight recorder" for SQL Server because it tracks query information,

namely query plans and runtime statistics. If you've ever had to drop everything to troubleshoot a sudden change in performance, then you've probably already realized the value of this feature.

In this session, we'll step through how Query Store works – you'll understand what information it captures and how to access the historical data through the UI and the system views. Then, we'll look at the data collected to identify queries that don't perform well and those that have regressions in performance due to different plans. Finally, we'll see how to force a specific plan for a query, discover what happens when the optimizer cannot use that plan, and examine how plan forcing compares to using plan guides. Expect to learn how to make troubleshooting easier with this feature that's included in all editions of SQL Server 2016!

Conquering Columnstore Indexes

Level: 200

Tim Chapman **Microsoft**

Introduced in SQL Server 2012, Columnstore Indexes have the power to completely transform a reporting environment. These indexes offer a solution for your reporting workload with an order of magnitude better data compression and query performance over traditional tables and indexes. SQL Server 2016 significantly enhances these indexes so that you can take advantage of them with your OLTP workload to enable something known as Operational Analytics. This session will dig into what Columnstore Indexes are, how they are implemented, and the advantages of using this technology in SQL Server 2016.

Data Science: Azure ML – A Rapid Introduction for DBAs

Level: 200

Shep Sheppard **Data Science 2 Go LLC**

In this session, and using readily available data, you will see demos and tutorials that you can go through during the session or take home and practice to get a jump-start in Azure Machine Learning. You will learn how Azure ML can perform basic statistics as well as a walk-through of simple linear regression and a simple classification. All scripts and walk-throughs will be made available at the session.

Data Science: SQL Server R – A Rapid Introduction for DBAs!

Level: 200

Shep Sheppard **Data Science 2 Go LLC**

In this session, and using readily available data, you will see demos and tutorials that you can go through during the session or take home and practice to get a jump-start in SQL Server R. You will learn basic R commands, basic statistics in R, walk-throughs of simple linear regression and simple classification from R Studio as well as from within SQL Server Management Studio. All scripts and walk-throughs will be made available at the session.

Data Science – Visualization and Story Telling

Level: 200

Shep Sheppard **Data Science 2 Go LLC**

One of the four pillars of Data Science is Visualization! You can have all of the data in the world at your fingertips with lightning fast access speeds, but if you cannot represent the data to the consumer in a meaningful way and use it to tell a story, it is of zero value to anyone, and possibly misleading. The principles of visualization are independent of any product so we will stick to principles vs focusing on any visualization package.

This is a fun interactive session where we will review some very important visualizations in history and the principles behind what makes a good and bad visualization. Some visuals are truly worth a thousand words, or even a thousand lives if done well. By the

end of this session you will be able to identify why a visualization is bad or good and how data to ink ratio, chart junk, and the lie factor impact and influence the consumers.

Deadlocking for Mere Mortals

Level: 300

Jonathan Kehayias **SQLskills.com**

While the improvements in SQL Server 2005 and 2008 made troubleshooting deadlocks significantly more straightforward, deadlocks still continue to be a constant source of questions in the forums online. This session will look at the most common deadlocks encountered and how to troubleshoot them using the various methods available to DBAs today; including Trace Flags, SQL Trace, Event Notifications, and Extended Events.

Design Quorum for Failover Clusters

Level: 200

Brent Ozar **Brent Ozar Unlimited**

Before you touch anything with Always On in the name, you need to understand how cluster quorum works and how it can bring your SQL Server down. Learn how dynamic quorum and dynamic witness should be configured and see 3 real-world scenarios.

Graph Database Processing with Azure SQL DB and SQL Server vNext

Level: 200

Joe Sack **Microsoft**

Microsoft is introducing native Graph database processing within SQL Server, allowing users to track relationships between entities and gain powerful insights from different pieces of connected data. Graph is well suited for applications where users need to extract information from different pieces of connected data, for example, IoT, fraud detection, recommendation engines, predictive analysis and beyond. The first version of Graph will include CRUD operations and T-SQL language extensions to support pattern matching for multi-hop navigation. In this session, we will review common use-cases and demonstrate how you can use SQL Graph to unlock more value from your data and increase operational agility.

In-depth Temporal Tables in SQL 2016

Level: 200

Ben Miller **Independent Consultant**

Have you ever wanted to know what the data looked like yesterday before a change was made? Have you cringed at the thought of creating triggers to get data changes logged for later analysis? Looking at a new feature in SQL 2016 called Temporal Tables gives you the ability to create a table that automatically keeps track of your data in time. Magic was never meant to be part of IT, but SQL Server has done a great job with this new feature. We will cover how to set it up, how it works, querying the tables including the history table and last but not least, how you can incorporate this feature into existing tables. Join me in a time travelling adventure to find out how you can leverage Temporal Tables in your world.

Check the conference website for the latest information, DEVintersection.com Sessions and speakers are subject to change.

Index Fragmentation: Internals, Analysis, and Solutions

Level: 200-300

Paul S. Randal

SQLskills.com

As soon as you have more than one index on a table, you're going to start seeing fragmentation. Many people know that this fragmentation is bad, but why is it bad? And what is the best way to get rid of it? Come find out from the person who wrote the tools for detecting and removing index fragmentation. In this session, you'll learn how fragmentation occurs and why the process that leads to it can often be as damaging to performance as the fragmentation itself. You'll also learn how to test for fragmentation, the different methods of removing it, and everything you need to consider when putting together an appropriate fragmentation-management strategy.

Introduction to High Availability and Disaster Recovery with SQL Server

Level: 200

Tim Radney

SQLskills.com

Are you looking to build a High Availability (HA) and/or Disaster Recovery (DR) strategy for your SQL Server environment? If so, you may be struggling to understand what an HA/DR plan should look like and what options are available to you natively within SQL Server. In this session, Tim will go over the fundamentals of HA and DR technologies built into SQL Server such as Database Mirroring, Log Shipping, Replication, Availability Groups as well as the benefits of Failover Clustering. After attending this session, you will have a better understanding of when to use each HA/DR feature, which version of SQL Server supports which feature, as well as the pros and cons of each.

Introduction to Performance Troubleshooting Using Wait Statistics

Level: 200-300

Paul S. Randal

SQLskills.com

One of the first things you should check when investigating performance issues are wait statistics as these can often point you in the direction for further analysis. Unfortunately, many people misinterpret what SQL Server is telling them and jump to conclusions about how to solve the problem – what is often called 'knee-jerk performance tuning'. In this session, you will learn what waits are, how to analyze them, and potential solutions to common problem patterns.

New Security Features in SQL Server 2016

Level: 200

Tim Chapman

Microsoft

SQL Server 2016 has made incredible enhancements in the realm of data security. Database administrators can now mask critical data from end users who need to see only specific portions of important information. Specific data can be returned to users based solely up the permissions the user has been given to see that data. In addition, can data be encrypted in its entire lifecycle. This new feature allows for applications to transparently handle encrypted data - leaving the database administrator without the ability to see this sensitive data. This session will cover these amazing new features in-depth as well as include several demos on how these new features can be incorporated into upgraded customer environments.

New T-SQL Capabilities in SQL Server 2016 & v.Next

Level: 200-300

Aaron Bertrand

SentryOne

Discover the ins and outs of some of the newest capabilities of our favorite data language. From JSON to SESSION_CONTEXT, to new query hints like USE HINT, to helper functions like STRING_AGG and STRING_SPLIT, and – finally – CREATE OR ALTER, this session will be packed with demos, and you'll walk away with a long list of reasons to consider upgrading to the latest version – or the next version.

Practical PowerShell for SQL Server

Level: 200

Ben Miller

Independent Consultant

This session will cover real world functions that are used for real interaction with SQL Server. There will be a few slides but mostly demos with actual scripts that interact with SQL Server for management and getting data in and out. I will also introduce some outside modules created to assist as well. Things like Reading/Changing the following: Permissions, DB Owner maintenance and database space management. We all could use a few standard things in the SQL Server world of ever changing roles and "I have to have it now" stuff, that Management Studio can get in the way of getting it done faster. Join me for a fun PowerShell hour and never try to reuse a click again.

SMO: A Study of the Server Management Objects

Level: 200

Ben Miller

Independent Consultant

SMO, short for Shared Management Objects (or SQL Management Objects to some), are some powerful programming interfaces to get and manipulate SQL Server in code. These objects are used in custom programs, in scripting with PowerShell and can be used to fully manage a SQL Server. But what do you really do with them? How do you use them? This session will cover some core objects that are used in every day interaction with SQL Server. I will cover how to get access to them, how to use them and best of all you will get to know these mysterious objects intimately so that you can get some real work done easily. Join me for some de-mystification of these objects and never be afraid again. Come get your geek on.

SQL Server 2016 – All Up Security Features

Level: 200-300

David Pless

Microsoft

In this session, we will cover and demo many security features such as Row Level Security, Dynamic Data Masking, Always Encrypted, Advanced Threat Detection, and the Azure Security Center covering SQL Server 2016 and Azure SQL Database.

Row-Level Security enables customers to control access to rows based on the characteristics of the user executing a query. RLS enables you to implement restrictions on data row access. For example, ensuring that workers can access only those data rows that are pertinent to their department, or restricting a customer's data access to only the data relevant to their company. Dynamic Data Masking limits (DDM) sensitive data exposure by masking it to non-privileged users. It can be used to greatly simplify the design and coding of security in your application. Always Encrypted is another feature designed to protect sensitive data stored in Azure SQL Database or SQL Server databases. Always Encrypted allows clients to encrypt sensitive data inside client applications and never reveal the encryption keys to the Database Engine (Azure SQL Database or SQL Server). These technologies can be used together to create a defense in depth

strategy. We will cover these security features with an in-depth, demo focused delivery covering Azure SQL Database and SQL Server 2016 on-prem.

We will also cover the Azure Security Center and Advanced Threat Detection which can be used to provide a dashboard for viewing and responding to security risks with a fully Power BI integrated solution. Azure SQL Database Threat Detection provides security by detecting activities which may indicate a threat such as SQL injection attacks. The benefits of Azure Threat Detection include configuration of SQL threat detection policy, email alerts upon detection, and Azure Portal and Microsoft Excel integration.

SQL Server 2016: AlwaysOn Availability Groups Features

Level: 200-300

David Pless

Microsoft

Introduced in SQL Server 2012, the AlwaysOn Availability Groups feature is an enterprise-level high-availability and disaster-recovery solution. AlwaysOn Availability Groups maximizes the availability of a set of user databases as an availability group that fails over as a unit. In this session, we will discuss the improvements available in SQL Server 2016 and how this increases the viability to leverage AlwaysOn Availability Groups as a full High Availability / Disaster Recovery solution for reporting as well as OLTP workloads.

We will cover SQL Server 2016 use cases of the 'increased number of secondaries' and the improved diagnostic capabilities (fn_hadr* functions, AlwaysOn cluster DMVs).

We will cover SQL Server 2016 specific capabilities such as improved log performance, multiple replica automatic failover, failover based on database failure, fully readable secondaries for 'round robin' load-balancing, and basic AlwaysOn 'Availability Groups' for Standard edition.

New Features with SQL Server 2016 Reporting Services and Power BI, Parts I & II

Level: 200

David Pless

Microsoft

SQL Server 2016 is packed with new capabilities with SQL Server Reporting Services and self-service reporting with Power BI. In this session we will outline the new features and capabilities of SQL Server 2016 Reporting Services that puts the power of data in the hands of everyone. We will cover the alignment of Microsoft's cloud and on-premises reporting solutions. We will cover how existing SSRS and Power BI expertise will transfer across these deployment modalities so you can mix and match on-premises and cloud components, and benefit from unique hybrid scenarios. We will cover paginated reporting, interactive reporting, mobile reporting, KPIs, dashboards, and analytical charting.

We will focus on the new capabilities of mobile reporting with the "Mobile Report Publisher" and web based reporting which allows for greater consumption of your report capabilities across the enterprise.

We will cover the new visualizations across the reporting experience and how you can pin report visualizations to a Power BI dashboard and other methods in hybrid-connected reporting. We will cover new capabilities of Power BI embedded for application development. This further allows you to leverage your existing reporting investments in SQL Server Reporting Services and application solutions. We will walk through the new reporting features in SQL Server vNext.

Finally, we will cover self-service visualizing and operationalizing data in Power BI. We will cover Power BI desktop, PowerBI.com,

and the capabilities of Power BI Embedded. We will also address Power BI deployment options and best practices. Expect a demo driven delivery covering collaboration capabilities and integration with the Reporting Services ecosystem. .

SQL Server Indexing: Strategies for Performance

Level: 200

Kimberly L. Tripp

SQLskills.com

SQL Server has clustered and nonclustered b-tree indexes, clustered and nonclustered columnstore indexes, and even a few other specialized types of indexes. It can be hard to know the correct direction to take for your data? Join Kimberly in this session to get an overview of when and why you should use combinations of these with emphasis on answering these main questions:

- How does SQL Server version affect indexing choices / strategy?
- What criteria should you look for in data access patterns and usage patterns?
- What makes a good base table structure (clustered b-tree v. clustered columnstore)?
- What can you do now? What are your plans for migration?

If you want to know the RIGHT way to index your tables – from DESIGN to TEST to PRODUCTION – this is the place to be!

SQL Server Performance Tuning: Eliminating Low-hanging Fruit

Level: 300

Jonathan Kehayias

SQLskills.com

You know they are there, those small issues that affect performance and are easy to fix, but finding them can be a challenge. This session will show you how to find the low-hanging fruit in your environment, explain why the problem exists, and step through how you can make the necessary changes to boost your SQL Server's performance with a minimal amount of effort. Jonathan will show you how to find common schema and code design problems that help you get the most bang for your buck when performance tuning SQL Server. By focusing on real-world examples with reproducible workloads, you will easily be able to see the impact of common problems and learn how to fix them quickly for improved performance from the least amount of effort.

SQL Server Performance Tuning: Plan Cache Analysis

Level: 300

Jonathan Kehayias

SQLskills.com

The plan cache in SQL Server has a wealth of information available to assist developers and DBAs with performance tuning. This session will show how to query the plan cache to find plan information and then how to parse the XML plans contained in the cache to identify missing indexes by query, high cost parallel queries with high usage counts, implicit column conversions caused by data type mismatches, and other interesting information about how queries have executed in the system.

SQL Server Performance Tuning: Server and Instance Metrics

Level: 200

Tim Radney

SQLskills.com

Figuring out how to get started tuning SQL Server performance can feel overwhelming at first. Where do you start? What should you look at? In this session, you'll learn a systematic approach to tuning SQL Server. First, we'll cover common instance level settings that can have a significant impact on SQL Server performance. Then we'll cover how to collect I/O metrics and pinpoint databases that have the highest latencies. Finally, we'll

cover how to find high-cost queries and discuss the importance of having a good baseline to measure all these things against. If you've been struggling to put together a performance-tuning process, this session is for you!

SQL Server Security for Developers *Level: 200*
Tim Chapman **Microsoft**

Database security is one of the most overlooked and least understood aspects of database development and administration. How permissions are assigned and who they're assigned to may mean the difference between an app that works properly and one that can lead to catastrophe. In this session, Microsoft Engineer Tim Chapman provides a detailed overview of the SQL Server security paradigm as well as several concrete examples of how security is assigned, the reasoning behind it, and how to avoid gnarly security pitfalls.

SQL Server Hybrid: What Every SQL Professional Should Know *Level: 300*
Bob Ward **Microsoft**

One of the tenants to Microsoft's Cloud Strategy is Cloud on Your Terms through solutions that are global, trusted, and hybrid. Your choices range from pure cloud, on-premises, and hybrid cloud solutions. In this session, we will explore and look behind the scenes to see how SQL Server 2016 provides Hybrid Cloud capabilities. These include Azure SQL Stretch Database, SQL Server Backup and Restore to/from the Cloud, Database files in Azure Blob Storage, and Always On Availability Groups extended to Azure. We will look at the architecture that powers these technologies, talk about the business value and why you would want to choose these capabilities, plus some demonstrations to understand how to configure and see these features in action. If you have been thinking about what investments to make in Azure and SQL Server, come learn about how SQL Server 2016 Hybrid can you help move to the cloud on your terms.

Statistics and Estimates: What You NEED to Know! *Level: 300*
Kimberly L. Tripp **SQLskills.com**

When SQL Server processes a query, it can be difficult to understand "why" it chose the method it did. In this session, Kimberly will define and demo when statistics are used and why it's so important to have accurate and up-to-date statistics. If you've been confused about how SQL Server comes up with the estimates that it does – this is the place to be!

T-SQL: Bad Habits & Best Practices *Level: 200-300*
Aaron Bertrand **SentryOne**

In this session, you will learn about various anti-patterns and why they can be bad for performance or maintainability. You will also learn about best practices that will help you avoid falling into some of these bad habits. Come learn how these habits develop, what kind of problems they can lead to, and how you can avoid them – leading to more efficient code, a more productive work environment, and, in a lot of cases, both.

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Catch the wave of new releases!

The Roadmap to Better Performance: Reading Query Plans, Part I *Level: 200-300*
Erin Stellato **SQLskills.com**

Whether you're a DBA or a developer, you probably know that when you submit a query to SQL Server it generates a plan – a map, if you will – that determines how it will get the data you've requested. But if you're not familiar with how to read that map, then how do you know how to create a faster route to the data? How can you tune a query? If you've been lost when looking at plans before, then attend this session where we will cover the basics of query plans. We'll step through how to capture plans, discuss the essential information to review in a plan, and talk about what you can ignore when looking at a plan. This session will be filled with demos so that the next time you're asked to help with a query, you know where to start.

The Roadmap to Better Performance: Reading Query Plans, Part II *Level: 200-300*
Erin Stellato **SQLskills.com**

There's a lot of information in a query plan, and understanding how to leverage it when performance tuning is a valuable skill. Throw in issues such as cardinality, data structures, and residual predicates, and suddenly the volume of what you need to know can become tricky to step through and effectively tune queries. In this session, we will cover how to focus on particular patterns you can apply that take the guessing out of plan-based tuning. There are good things to look for, as well as bad, and these patterns will help you develop a methodology to accelerate both your confidence with reading plans and the performance of your queries.

Troubleshooting SQL Server Backup and Restore Problems *Level: 300*
Brent Ozar **Brent Ozar Unlimited**

You're already familiar with full, differential, and log backups – but what happens when someone says they accidentally deleted 15 records an hour ago? What happens when one log file backup disappears? What happens if you need to restore to an exact point in time? Learn some surprising answers before you get bitten by a real emergency, and learn Brent Ozar's tricks to work around these issues.

Understanding Logging and Recovery *Level: 400*
Paul S. Randal **SQLskills.com**

Just what is the transaction log and why is it there? Some of the most misunderstood parts of SQL Server are its logging and recovery mechanisms. The fact that the transaction log exists and can cause problems if not managed correctly seems to confound many DBAs. In this in-depth session you will learn the mysteries of the transaction log – its architecture and behavior under different recovery models- as well as how logging and recovery work in SQL Server. This is essential knowledge you need for understanding how backup, restore, log-shipping, database mirroring, and other technologies work.

Understanding SQL Server Backup and Restore *Level: 200*
Tim Radney **SQLskills.com**

Everyone knows that it's critical to have backups but it's amazing how few people make sure those backups can be restored properly! Too many times to count, Tim has been brought in by organizations to help recover failed systems where administrators



simply didn't know how to properly restore SQL Server backups when they have to. In this session, Tim will explain the various types of backups that can be taken and demonstrate how to restore each of them. Apart from covering the common full, differential and log backups, Tim will also cover partial, filegroup, and COPY_ONLY backups, backing up to and restoring from a URL, backup encryption, and how to perform a hack attach for the ultimate tail log restore. There's something here for everyone to learn!

SQLIntersection Closing Panel & RunAs Radio Recording *Level: All*

Hosted by Richard Campbell of RunAs Radio and featuring Bob Ward, Paul S. Randal, Kimberly L. Tripp, and Brent Ozar with cameos from other SQLIntersection speakers

Bring your remaining questions to our closing panel and have some great fun with this highly interactive and always entertaining session hosted by Richard Campbell of *RunAs Radio*. Check out our past show recordings:

- Fall 2013 SQLIntersection here: <http://runasradio.com/default.aspx?showNum=341>
- Spring 2014 SQLIntersection here: <http://www.runasradio.com/default.aspx?showNum=369>
- Fall 2014 SQLIntersection here: <http://www.runasradio.com/default.aspx?showNum=397>
- Spring 2015 SQLIntersection here: <http://www.runasradio.com/default.aspx?showNum=423>
- Fall 2015 SQLIntersection here: <http://www.runasradio.com/Shows/Show/447>
- Spring 2016 SQLIntersection here: <http://www.runasradio.com/Shows/Show/474>
- Fall 2016 SQLIntersection here: <http://www.runasradio.com/Shows/Show/506>



Join the SQLIntersection speakers and attendees for a drink, trivia and prizes.

Sponsored by **SQLskills.com & SentryOne**

Evening events take place Tuesday, May 23 at 7:00pm



Hosted by **Michele Bustamante & Brock Allen**

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and more!

IT is transforming. The management techniques and tools you've used for a decade or more are less relevant - it's all changing. Cloud services are a reality, to some degree, for almost everyone. Automation is moving into DevOps, continuous integration pipelines, and more. Virtualization and containers have changed our infrastructure drastically. It's no longer a safe bet to just sit and do what you've been doing - but there's no reason to panic. The experts at IT TRANSFORMATION are here to help you understand how to use these new technologies, new approaches, and new techniques - all with a real-world focus that acknowledges the realities that you deal with every day. We're focused on making your job easier, your team more efficient, and your organization happier and smoother.

Brownfield DevOps in Practice

Damian Brady **Octopus Deploy**

Are you ready to continuously deploy every commit to production and deploy 25 times a day? Can your operations team tear down and spin up VMs and containers for your app like they're nothing? Can your company track production usage and toggle features at the whims of the marketing department? No?

We all know it's not quite that easy. You can't take an existing house-of-cards monolith and just start treating it like a unicorn, as much as everyone would like to. But as a developer, you can start to make practical inroads, and you can do it now.

This talk looks at DevOps culture from the point of view of a developer - how code changes can affect the agility of your organization. We'll discuss architectural changes, design techniques, deployment pipelines, and how to make large changes safely. Developers at any level will leave with some practical ways to support your company's DevOps efforts and start working better with your ops team.

Continuous Deployment in 60 Minutes with Octopus Deploy

Damian Brady **Octopus Deploy**

Heard of Octopus Deploy but haven't had a chance to try it? Is your company using Octopus but you haven't explored it much yourself? Or are you an active user and want to learn some new tips and tricks? If deploying your app is harder than making a cup of coffee, this is a session you can't miss.

Starting from scratch with fresh machines, we'll work our way towards a complete deployment automation pipeline for an example application. We'll install and configure the Octopus components, configure environments, set up projects, add deployment steps, and configure security. We'll even look at the API and how we can integrate with third party applications - everything you need for efficient and reliable end-to-end deployment. By the end of the session, we'll be deploying our app with a complete, working, continuous delivery pipeline.

Despite being demo-centric, this session won't just be about the how. As we progress, there'll be explanations of how and why Octopus works the way it does, and we'll discuss some of the

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Sessions and speakers are subject to change.

Catch the wave of new releases!

DevOps best practices that drive the product. Whatever your exposure to Octopus Deploy, this session has something for you.

Deploying for Day 100

Michael Greene **Microsoft**

Sure you want to go to the cloud, but then what? Attend this session to learn best practices you can use at deploy time for bootstrapping servers on public or private clouds to hybrid operations services such as configuration management, monitoring, patching, protecting, etc. Focus on techniques that use infrastructure as code.

Sharing Server Configurations in Enterprise Environments

Michael Greene **Microsoft**

The problem with snowflakes is they tend to lose their shape. Do you really have time to think about these new idyllic infrastructure practices though? It's not so bad, really. In this session we will discuss how to construct composable server configurations (small reusable pieces) and the tools available ranging from free to cloud services so that you can construct a private gallery of server deployment details that your organization can trust.

The DSC Pull Server, Deconstructed and Customized

Don Jones **Pluralsight**

PowerShell's DSC pull server, as shipped with Windows, is a fairly primitive beastie. But once you learn how it works under the hood (powerful knowledge for troubleshooting, by the way), you can start to reconstruct it as a more fully customized piece of infrastructure. Don Jones has been working on an OSS pull server alternative, and in this session he'll share what he's learned, what has worked, and what's yet to be conquered.

PowerShell Unplugged

Don Jones **Pluralsight**
Jeffrey Snover **Microsoft**

Learn how the experts approach a new problem in PowerShell, iterate through console-based approaches to arrive at a solution, and then codify that solution in a tool that's built on native PowerShell patterns and principles. Bring your questions to this entirely ad-hoc, just-like-it-happens-in-real-life demonstration!

What a Functioning DevOps Team Looks Like - and How to Get There

Don Jones **Pluralsight**

DevOps, DevOps, DevOps. We all hear about it, and those "in the know" realize that it's mainly an organizational and cultural change. So what's that actually look like? What does a real-life, functioning "DevOps team" do all day, and how are they organized? What are the cultural barriers to getting there, and how can you start conquering them? Don Jones, CEO of The DevOps Collective, Inc., walks you through real-world examples, case studies, and more in this concise, discussion-based session.

Infrastructure From Code - A Walkthrough

Mitchell Kruzel **QRM**

In this session, we will work through a real world example of creating infrastructure from code. In this example we will use a TFS GIT Repository to source control all of our PowerShell deployment scripts. Using the TFS Build process we will:

- Test our PowerShell script to ensure the scripts are of good quality

- Execute the source controlled PowerShell scripts to create VMs
- Use DSC to configure the newly provisioned VM. This will be a start to finish infrastructure deployment strategy.

From this session, you will learn the basic client interactions with a GIT Repository, understand the basics of a TFS GIT Repository, learn how to set up a TFS Build to test and execute PowerShell scripts, and finally how to create a VM from a template and bootstrap a DSC Configuration into it.

Infrastructure Testing from Code

Mitchell Kruzel **QRM**

In this session, we will work through a real world example of testing infrastructure from code. Most, if not all, IT shops have some sort of monitoring solutions in place. Often times these solutions generate hundreds of worthless alerts. This session offers a different approach to monitoring. We will use PowerShell scripts to test our infrastructure at an application level to ensure that everything is working as expected. For example, Connect to a SQL Server and ensure that it returns data. Connect to a website and make sure it returns a valid status code and validate that the page returned is valid.

PowerShell Toolmaking for a Corporate Environment

Mitchell Kruzel **QRM**

In this session, we create PowerShell Modules that can be used throughout the corporate environment. Have you ever created a script that you wanted to share with someone else? Or make a tool that requires upkeep periodically? Have you ever broken your script with a change? This session offers a solution to these situations. We will formalize our scripting process by working with source control and use a TFS Build Process to test/publish our modules to an internally hosted PackageManagement Repository. From this session, you will learn the basic client interactions with a GIT Repository, understand the basics of a TFS GIT Repository, learn how to set up a TFS Build to test and execute PowerShell scripts, and finally how to create, version, and publish a PowerShell module to an PackageManagement Repository.

Application Automation with Habitat

Steve Murawski **Chef**

Configuration management has taken hold in the infrastructure management arena, but managing our applications with traditional configuration management tools can be painful and leaves some gaps to fill. These gaps leave people reaching for new ways to manage applications. Habitat is a re-thinking of how we can run our applications well, bringing all the benefits of containerization and cloud-style, standardized management to any and every application.

Continuous Delivery of Infrastructure with Chef and DSC

Steve Murawski **Chef**

From this session, you will learn the basic client interactions with a GIT Repository, understand the basics of a TFS GIT Repository, learn how to set up a TFS Build to test, execute PowerShell scripts, and finally, how to set build status based upon test results. From the build status, we can then parse and understand the results of the infrastructure testing.

Containers - What They Mean for the IT Pro

John Savill **Independent Consultant**

IT Pros are used to virtual machines and they are often seen as the solution to any problem. Need isolation, create a VM. Need resource control, create a VM - but there are many things VMs don't help with, such as prescriptive deployment, and actually slow down deployments. Containers are a new technology and a type of virtualization that solve a huge number of challenges with application deployment and lifecycle management. In this session, John will walk through what containers are, what is Docker, how to create containers and the role they play in your organization.

JSON Templates for the IT Pro

John Savill **Independent Consultant**

JavaScript Object Notation may as well be another language to IT admins, however, it's really not as bad as it seems, and understanding JSON is critical to using Azure and many other services today. In this session, the format of JSON will be explored, and more importantly, good sources to obtain templates and how to edit them with a number of different tools, including web-based tools, VS Code, and Visual Studio with a special focus on JSON template management with Azure Resource Manager.

Tuesday, May 23

WOMEN IN TECHNOLOGY LUNCHEON

Please sign up
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Come to network and spend some quality time
with our speakers and other attendees.

Understanding ARM with a Whiteboard and an RDP Session

John Savill Independent Consultant

In this session, John will explore the key aspects of Azure infrastructure services including compute, storage, and networking without a single powerpoint slide (well, maybe one). Instead, John will walk through key aspects using a whiteboard, a web browser and an RDP session. By the end of this session, the attendees will have a solid understanding of the Azure infrastructure services and how to leverage them in conjunction with on-premises infrastructure.

Azure Backup and Site Recovery, Even for Non-Cloud Organizations

Orin Thomas Independent Consultant

Azure's Backup as a Service (BaaS) and Disaster Recovery as a Service (DRaaS) services aren't just for organizations that run some or all of their IT infrastructure in the cloud. There are distinct advantages to using both Azure Backup and Site Recovery, including reducing the complexity of managing tapes, moving backup data to secure off-site locations, as well as reducing costs around maintaining and testing a disaster recovery site. In this session, you'll learn how you can deploy and manage Azure Backup and Site Recovery, making the transition from a traditional on-premises backup and DR regime to one that leverages the benefits of the cloud.

Azure Security Center

Orin Thomas Independent Consultant

Just because you've deployed your workloads to the cloud doesn't mean that you can stop thinking about security. Azure Security Center assists you in detecting, preventing, and responding to threats to the workloads that you've deployed into Azure. In this session, you'll learn how to configure, manage and understand the security monitoring functionality and policy based management available for your Azure subscription. You'll learn how to leverage Azure Security Center to analyze security data from your workloads, how to manage security alerts, how to respond to attacks and prevent future attacks.

Securing Azure: Azure AD Privileged Identity Management

Orin Thomas Independent Consultant

Azure AD Privileged Identity Management allows you to control how privileged accounts can be used in your organization's Azure subscription. In this session, you'll learn how to configure Azure AD PIM to leverage "Just In Time" administration, so that you can limit administrative privileges so that they can only be used for a finite amount of time. You'll learn how to configure and manage the steps that must be taken to activate an administrative role, including requiring MFA, requiring additional information such as a support ticket ID, and emailing notifications to a separate mailbox each time an administrative role is activated. You'll also learn how you can audit Azure AD PIM role activations, delegate roles and configure security alerts.

**Tim Warner has set up a permanent session page and GitHub repository for each of his sessions, so you'll be able to recreate all examples and review all session materials at your leisure.*

Azure Architect: IaaS or PaaS?

Tim Warner Independent Consultant

Azure is about more than just running VMs in the cloud, and in fact running VMs might take the least advantage of what "the

cloud" can do for you. Come learn about the real differences between IaaS and PaaS, when each one is the right tool for the job, and how each one impacts scalability, reliability, management, maintenance, costs, and more.

Azure AD SSO Deep Dive*

Tim Warner Independent Consultant

The pain point: You need to give your on-premises Active Directory users a single-sign on (SSO) experience with SaaS apps hosted in the Azure (and other) public clouds, and you have no clue how to begin.

The solution: In this session, we'll examine the options for identity synchronization and SSO in the Microsoft Azure hybrid cloud scenario. We'll use Azure AD Connect to perform both basic password synchronization, as well as ADFS-based identity federation to Office 365 and other cloud-based SaaS apps.

Here are some of the things you'll know how to do after attending this presentation:

- Configure account and password synchronization to Azure AD
- Deploy ADFS-based identity federation with Azure AD
- Set up SSO between Azure AD and various other SaaS apps

Azure Networking Deep Dive*

Tim Warner Independent Consultant

The pain point: Too many Azure administrators deploy IaaS virtual machines (VMs) by employing default settings, and then kicking themselves afterward when VMs don't communicate the way they should.

The solution: In this session, you'll develop a crystal-clear understanding of how software-defined networking (SDN) works in the Microsoft Azure public cloud. We'll cover intra- and inter-virtual network communications, as well as the various hybrid networking scenarios offered by Microsoft.

Here are some skills that you'll take away from this presentation:

- Deploy Azure virtual networks
- Configure NICs and Network Security Groups (NSGs)
- Establish intra- and inter-virtual network connectivity
- Set up a site-to-site VPN between on-prem and an Azure virtual network
- Understand ExpressRoute

"Round Trip" Desired State Configuration*

Tim Warner Independent Consultant

The pain point: You've pushed a few PowerShell DSC configurations, and you have a basic familiarity with DSC workflow. However, you now need an end-to-end understanding of how DSC works to support your business' DevOps initiative.

The solution: In this session, we'll use a case study approach to learn the complete DSC development, implementation, and maintenance lifecycle.

Here are some of the things you'll know how to do after attending this presentation:

- Build a DSC resource
- Include the new resource in a DSC configuration
- Push the configuration to a node and perform troubleshooting
- Install the resource and configuration on an Azure Automation DSC pull server
- On-board an Azure VM node and verify operations

Office 365 sits at the Intersection of collaboration and technology, with SharePoint being a key player in this ever evolving space. Microsoft has more than doubled down on its investment into SharePoint making the On-prem, Hybrid and Office 365 platforms even more powerful than ever before. Come learn how this leading edge technology can help bring value and innovation to your organization.

SHAREPOINTintersection and OFFICE365intersection take place this spring. We are excited about the amazing line-up of speakers and sessions to introduce you to the latest Microsoft has to offer with SharePoint 2016 and Office 365. The sessions are focused on teaching you how to leverage these products/services within your organization. Our speakers include industry experts in SharePoint and Office 365.

SHAREPOINTintersection and OFFICE365intersection offers the best value with discounted hotel room rates, in a city that is affordable to travel to, with great meeting facilities. The conference includes a thoughtful blend of new and existing technologies, amazing speakers and a partner expo hall with community leaders and interaction with Microsoft and industry experts. You will be getting the best package deals available for the speaker line up and content being provided.

Today, tools and technologies are intersecting; our SHAREPOINTintersection and OFFICE365intersection conference is co-located with DEVintersection and SQLintersection conferences so you can also take sessions in Windows Azure, Visual Studio, ASP.NET, as well as SharePoint and Office 365. You can expand your knowledge even more with the co-located conference featuring open web standards sessions for developers and designers who love the web. All paid attendees can cross over and attend the sessions in any track for free. Over 150 sessions will be presented by industry experts and Microsoft engineers at a fantastic venue with an expo hall, evening events and good food during the conference!

Planning for Office 365 Mobile Access

Stephanie Donahue PAIT Group

The mobile landscape for Office 365 is vast and quickly changing. A year ago our focus was on simply getting to the cloud. Today many of us have already deployed Exchange, Skype, and SharePoint in Office 365, and are beginning to wonder what's next as we begin to look at mobile access to Office 365. Join this session to learn about:

- Overview of available Office 365 Applications and real-world use scenarios
- Discussing SharePoint Responsive Design vs using an app
- Learn about the latest offerings for Microsoft's Enterprise Mobility & Security Suite
- The future of mobile forms and workflow with PowerApps and Flow

Real-world Use Cases for PowerApps and Flow

Stephanie Donahue PAIT Group

Come to this session to learn how to leverage PowerApps and Flow in the real world to do real business processes. Get beyond the twitter demos and hello world apps and create something you can use right away in your organization! We will talk about vacation request forms in PowerApps, email-enabled libraries in SharePoint Online using Flow, and the future of business process automation in SharePoint Online.

Taming the Hoarders...Organizing Users Who Keep Everything!

Stephanie Donahue PAIT Group

Email, file shares, documents, legacy systems, metadata.....it can be overwhelming. Whether you are planning a brand-new SharePoint implementation, migrating from another system, or supporting the SharePoint site you already have, this presentation will help you get (and stay) organized.

I will take you through some tips and tricks for organizing even the most challenging users in SharePoint:

- Learn about locations that users typically hoard to save their data
- Learn methods to help difficult users adopt SharePoint
- Review easy ways to plan your site architecture
- Discuss training methods that will increase user engagement

Building Real-world Solutions with PowerApps, Flow and Azure Function

Dave Feldman Shire

Come learn how to quickly create new SharePoint app user experiences with PowerApps and have them available on your user's mobile devices. If that's not enough excitement, we'll explore how Flow can enable us to orchestrate processes across platforms and clouds. This demo-heavy session will build a number of application scenarios that you can start using right away.

Getting Started with Power BI

Dave Feldman Shire

Microsoft Power BI makes it easy to create interactive data visualizations on a diverse number of data sources in the cloud or hybrid and deliver them to any device. Come to this demo-heavy session to learn how to get started today and bring greater visibility to the data that matters to you.

Next Generation Collaboration with Team Sites, Groups, Planner and Delve

Dave Feldman Shire

Things have always moved faster in the cloud, but lately there has been a whole new generation of collaboration options for customers using SharePoint Online. Come learn about new team sites and publishing sites, about groups and the whole range of collaboration options that make this the best platform for enterprise collaboration and productivity.

Check the conference website for the latest information, DEVintersection.com Sessions and speakers are subject to change.

SESSIONS

SharePoint Office 365

Building Applications for Office 365 and SharePoint with Angular 2, TypeScript, and ASP.NET Core

Level: 300

Scot Hillier Independent Consultant

Angular 2 is a popular JavaScript single-page application (SPA) framework and a solid foundation for use in SharePoint development. In this session, Angular 2 and TypeScript will be used to build applications for Office 365 and SharePoint; both on-premises and in the cloud. Attendees will exit the session with new ideas for building stand-alone applications for Office 365 and SharePoint.

Building Applications for Office 365 and SharePoint with ReactJS

Level: 300

Scot Hillier Independent Consultant

ReactJS is a JavaScript framework for building user interfaces. This popular framework is at the heart of the new SharePoint Framework (SPFX). In this session, ReactJS and TypeScript will be used to build client-side web parts for Office 365 and SharePoint; both on-premises and in the cloud. Attendees will exit the session with new ideas for building client-side web parts for Office 365 and SharePoint.

Deploy and Provision Best Practices with Microsoft SharePoint Server 2016

Jason Himmelstein Rackspace

Microsoft SharePoint Server 2016 provides a new suite of IT capabilities to drive improvements in both scale and resiliency. Learn the best practices to deploying and provisioning SharePoint Server 2016 with these capabilities in mind. Understand requirements and proper foundation to building a stable, scalable platform to take your business into the next evolution of SharePoint.

Directory Synchronization and Office 365 – Better Together

Scott Hoag Crowley Maritime
Dan Usher Booz Allen Hamilton

Are you looking to reduce the number of post-it notes your end users have? Seeking to automate your user creation processes for Office 365? This session will go through the basics of identity in Office 365 and demonstrate to how to setup and configure Office 365 with Azure Active Directory using the Azure Active Directory Connect tools.

You will learn:

- The core concepts of Office 365 / Azure Active Directory user identity
- Your identity synchronization options and available tooling
- How to implement and configure tooling for identity synchronization

To the Cloud! Using Azure as a Hosting Provider for SharePoint

Scott Hoag Crowley Maritime
Dan Usher Booz Allen Hamilton

To the cloud! This phrase seems to come up more often for organizations looking to reduce their SharePoint footprint and operational expenses in their on-premises data centers. This session will provide a brief overview of a few of the premier Infrastructure as a Service hosting providers for SharePoint, how SharePoint in the cloud stacks up against Office 365 and how to quickly get your SharePoint system built in a repeatable fashion for development environments in Azure.

Catch the wave of new releases!

You will learn:

- About the core Infrastructure as a Service (IaaS) providers and how they compare to Microsoft Azure
- About the complexities of what is involved with implementing SharePoint in a cloud hosted environment
- What some of the nuances and workarounds are for hosting SharePoint in the cloud

Getting Your Company Up and Running with Office 365

Scott Hoag Crowley Maritime
Dan Usher Booz Allen Hamilton

Whether you're thinking about purchasing Office 365 for your business or you've inherited an Office 365 tenant, there's a strategy to getting on-boarded to both the suite of cloud services and the desktop components of Office 365. In this session, we'll start with a fresh tenant and show you how to get up and running the right way no fuss.

By the end of this session, we'll have configured a tenant with:

- DNS setup for major suite components (Exchange Online, Skype for Business, MDM)
- Configured identity synchronization with a verified domain
- Deployed a custom Office 2016 ProPlus installer and review deployment options
- Configured the tenant to allow users access to Outlook Groups, Microsoft Teams, and SharePoint Online

Manage Office 365 like a Ninja (Part 1)

Seb Matthews Independent Consultant
Jason Himmelstein Rackspace

Ninjas move quietly, disturb nothing and get the job done.

Office 365 Admins need to be like ninjas – the 24x7 nature of Office 365 means that users are able to use their IT systems like never before. The Martini principle of “anytime, anyplace, anywhere” means that the Office 365 IT Pro needs to be faster, wiser and stealthier than ever before.

In Part One of a two-part series unique to DEVintersection, international consultant and speaker Seb will walk through:

- The Office 365 Portal
- PowerShell fundamentals for Office 365
- Groups, Planner and other Office 365 elements

Packed with indispensable advice from the real-world, if you're responsible for the management of your Office 365 tenant, trying to understand what's involved, or you just want to know more, these sessions are for you.

Manage Office 365 like a Ninja (Part 2)

Seb Matthews Independent Consultant
Jason Himmelstein Rackspace

Ninjas move quietly, disturb nothing and get the job done.

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In Part Two of a two-part series unique to DEVintersection, international consultant and speaker Seb will walk through:

- CSOM fundamentals
- SharePoint Online the ‘New-fashioned’ way
- Advance usage of PowerShell and Office 365

Packed with indispensable advice from the real-world, if you're responsible for the management of your Office 365 tenant, trying

to understand what's involved, or you just want to know more, these sessions are for you.

Designing for Optimal Performance in SharePoint Online

Sean McDonough PAIT Group

In the last several years, the growth in popularity and compelling value of Office 365 have resulted in many organizations adopting SharePoint Online rather than building an on-premises implementation. Developing for SharePoint Online shouldn't be approached with the same mind-set as developing for SharePoint on-premises, though. In this session, we'll take a look at how SharePoint Online is implemented and how it differs from a typical on-premises implementation. We'll examine why developing for the cloud is different, identify common development concerns, and demonstrate some good (and bad) development approaches. We'll also look at some hands-on troubleshooting techniques that are available for diagnosing common SharePoint Online performance problems, as well as some solutions that can be applied. At the conclusion of this session, participants will have a greater understanding of SharePoint Online, how to develop for it, and how to perform basic performance troubleshooting in the cloud.

Tapping the Power in PowerShell

Sean McDonough PAIT Group

PowerShell has been around in some form since 2005, but it was only with SharePoint Server 2010 that PowerShell became an official part of the SharePoint administrative landscape. Nowadays, PowerShell is the preferred mechanism for administrative management of SharePoint farms, both on-premises and in the cloud with SharePoint Online. In this session, we'll be taking a more advanced look at PowerShell and how it can be used to execute and script administrative actions for SharePoint. We'll look at some common SharePoint activities that are carried-out through PowerShell, as well as some of the newer PowerShell capabilities like desired state configuration (DSC). We'll also look at some PowerShell watch-outs, including some behaviors that can sometimes cause trouble for SharePoint. Administrators and developers alike will leave this session with a variety of concepts and script samples that can be used to immediately improve operations within their own SharePoint environments.

Understanding and Leveraging Microsoft's Enterprise Mobility + Security (EMS) Suite

Sean McDonough PAIT Group

The Enterprise Mobility + Security (EMS) Suite is a product offering that receives a lot of attention and “air time” from Microsoft nowadays. Although many enterprise architects, technical decision makers, and IT Pros have heard about EMS, many don't know exactly what it is and what it does. In this session, we will be looking closely at EMS and the growing set of identity, security, data, and device management problems that it addresses. We will look at each of the workloads and capabilities within EMS, how they work, and some practical examples of solutions involving each. We will also clear-up the confusion that frequently arises in understanding where Office 365 ends and EMS begins. By the end of this session, you will understand what EMS is, the role that it plays in secure cloud solutions, and why it is a natural fit for consumers already leveraging Office 365 in their day-to-day operations.

SESSIONS

SharePoint Office 365

Jump Start Digital Collaboration with Office 365 Groups and Teams

Gina Montgomery Connection

Today there are more than 96 million mobile workers! With our organizations shifting into more a digital workplace, easy-to-use and secure collaboration space is a necessity. Groups ties together a set of experiences and apps in Office 365 to let you hold conversations about what you are working on, get progress updates from the team, share files and more. Attendees will benefit from live hands-on demonstrations on end-user experiences and administration capabilities for Groups and Teams while also hearing about real-world used cases.

Office 365 Administration Tips in the Wild West of Evergreen

Gina Montgomery Connection

Over the last few years, Office 365 has been evolving at a rapid pace, making more features and functionality available to users and admins on an almost daily basis. As this service evolves, it is even more important to be apprised on all the administration capabilities available. With new functionality for end users like Office 365 Groups, storage quotas can easily be disrupted without proper administration. Microsoft has also released a slew of new reporting functionality around SharePoint Online, OneDrive, Yammer, Exchange Online and Skype for Business Online. Join me in this session and see what all the newest admin buzz is about.

The Ultimate Guide to Office 365 Collaboration

Gina Montgomery Connection

Today's workplace has evolved. Employees are working on more teams than ever. Teams are comprised of internal and external users, spread across different geographies and now have an ever wider multigenerational composition than before. These teams all still have to find a way to collaborate, have different needs and are facing a common set of challenges. In this session we will cover Office 365 Collaboration Use Case guidance across Teams, Skype, Office, SharePoint and Yammer, as well as, the intelligent fabric that ties them all together. You'll learn how to create a productive, digital workspace for your all of your end users that will inspire the team collaboration that is needed while eliminating the confusion on what to use for what.

Converting Your CEWP Customizations to the SharePoint Framework

Mark Rackley PAIT Group

The SharePoint Framework is coming. Are you preparing? What are you going to do with all those customizations you created by putting script on a page using a Content Editor Web Part? Tabs, Sliders, Charts, Graphs, DataTables, Reports! Is all of that going to work in the new SharePoint Framework?

Never fear, well... fear less! Join Mark Rackley as he walks you through the step by step process for converting a legacy solution built using JavaScript and a Content Editor Web Part to a SharePoint Framework Client Web Part. In this session attendees will learn:

- What is the SPFx and what does it mean?
- How to create an SPFx solution without having to learn TypeScript!
- How to overcome common obstacles and hurdles for creating SPFx Client Web Parts.

SESSIONS

SharePoint
Office 365

Catch the wave of new releases!

Delivering a World-class Search Experience

Mark Rackley PAIT Group

SharePoint search is one of the most under-utilized features of SharePoint. With the proper use of search you can give your users a rich, powerful experience allowing them to find the information as easily as shopping for a product on amazon.com. In this demopacked session, users will learn:

- How to incorporate jQuery into display templates to take search to the next level
- Best practices for using Content types to aggregate content across multiple sites or site collections
- Create and use custom refiners to make search for a document as simple as finding a product on Amazon

Utilizing jQuery in SharePoint – Get More Done Faster

Mark Rackley PAIT Group

JavaScript, REST, CSOM, Office 365 APIs: Like it or not, client-side development is the future of SharePoint development. At the forefront of this wave is the powerful JavaScript library jQuery. Utilizing jQuery in SharePoint, developers can take their applications to the next level in less time. What's more, you can utilize jQuery in SharePoint 2007, 2010, 2013, and in Office 365 often without making changes to your code. In this session, you gain a new appreciation for jQuery and learn:

- What's possible, including visual enhancements and practical business intelligence
- Tips and tricks for deploying and maintaining scripts
- How to get quick wins with little effort using third-party jQuery libraries

- How to interact with SharePoint forms and lists using JavaScript and jQuery

Building Your First App with the Microsoft Graph

Rob Windsor Independent Consultant

The Microsoft Graph (formerly known as the Office 365 APIs) 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 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.

An Introduction to Development with the SharePoint Framework (SPFx)

Rob Windsor Independent Consultant

At the "Future of SharePoint" event in May, Microsoft announced 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 using the developer preview 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.

WORKSHOPS

All tracks

PRE-PRE-CONFERENCE Workshop Saturday, May 20, 2017 9am - 4:00pm

Building Bots with the Bot Framework for the Enterprise and Beyond

Hands-on. Bring your own laptop fully charged.

Daniel Egan Microsoft
Adam Tuliper Microsoft

The bot framework is the perfect junction of machine learning, artificial intelligence and just plain old good programming. In this hands on workshop you will learn all about building a conversation bot (bot). How to process Natural Language using LUIS, connect your bot so it can be utilized on multiple channels (Skype, Web, Slack, Kik, etc...). We will discuss how bots can be used both in the enterprise to do things (like handle call volumes, or automate build processes), to bots that can help you do things (like order tickets or clothing), to whimsical bots that will use cognitive services to caption a picture you send it. By the end, you will have everything you need build your own bot to do your bidding.

Making the Jump to ES6 and TypeScript

Dan Wahlin Wahlin Consulting
John Papa JohnPapa.net, LLC

Workshop will have some hands-on aspects. Bring your own laptop fully charged.

Interested in learning about the future of JavaScript and Web development? If you haven't started looking at the future of JavaScript and where it's going with ES6, then this is your opportunity. This workshop will introduce language features found in ES6 and TypeScript and show what both languages have to offer. Learn how to convert ES6 and TypeScript to ES5 using tools like Gulp and tsc so that it can run in any browser, learn about modules, classes, maps/sets, destructors, types, interfaces, generics and many more language features.

Topics covered:

- ES6 Core Features
- The Benefits of TypeScript
- Getting Started with TypeScript
- Debugging TypeScript
- Built-in Types
- Creating Enums and Const Enums
- Working with Functions
- Optional, Default and Rest Parameters
- Arrow Functions and "this"
- Working with Classes
- Using the public and private Modifiers
- Using Namespaces
- Working with Interfaces and Type Definition Files
- Defining and Using Generics
- Working with ES6 Modules in TypeScript

Microservices and Containers – Platforms, Tools and Code: Day 1

Michele Leroux Bustamante Solliance, Inc.
Workshop will have some hands-on aspects. Bring your own laptop fully charged.

Two-Day Workshop continues Sunday

Microservice architecture is the current evolution of application and enterprise architecture that takes the principles we remember from service-oriented architecture and applies them more discretely. When you apply Microservices architecture patterns and principles, you decompose monolithic applications into

smaller, more manageable and atomic parts – creating full-stack service silos – leveraging advances in containerization and DevOps culture. This approach enables teams to respond to rapidly changing business requirements more efficiently. Embracing Microservice architecture also forces you into better practices related to design and operations, by necessity, arguably as it should be.

This workshop begins with a short journey through the evolution of Microservices principles and patterns with design discussions of real applications and visual topologies. Following this comes the fun of exploring Microservices platforms including container platforms, Docker and Azure Service Fabric. While learning about the lifecycle of a Microservice architecture and its DevOps considerations, you will also see how platforms such as Docker / Swarm, Docker Data Center, Azure Container Services with Apache Mesos / DCOS, Amazon EC2 Containers, Google Container Engine and Kubernetes and Azure Service Fabric compare in terms of development process, DevOps experience, and features. You gain hands on experience in the process and go through the process of design, development, deployment, upgrade, scale, and operational use cases. By the end of this workshop, you will have a taste of many platforms and a good idea about the drivers for choosing between them for Microservice solutions in your future.

Identity & Access Control for Modern Applications and API's Using ASP.NET Core: Day 1

Brock Allen BrockAllen.com

There will be 1-2 hours of labs; please bring your own laptop with Visual Studio 2015 installed and fully charged.

Two-Day Workshop continues Sunday

Modern application design has changed quite a bit in recent years. "Mobile-first" and "cloud-ready" are the types of applications you are expected to develop. Also, to keep pace with these demands, Microsoft has revamped their complete web stack with ASP.NET Core 1.0 to meet these architectural demands.

Needless to say, you also have to secure these apps.

Multi-platform, multi-client, and highly-mobile users bring a new set of challenges, so the approaches of the past are no longer appropriate for modern applications. This workshop is your chance to dive into all things security related to these new technologies. Learn how to securely connect native and browser-based applications to your back-ends and integrate them with enterprise identity management systems as well as social identity providers and services.

This workshop covers everything you need to know to build modern and secure web, native & mobile applications. The foundation will be Microsoft's latest technology stack, but will also include IdentityServer4, which is the officially recommended framework for building token services.

Getting Started with DDD and ASP.NET Core

Steve Smith

This is a hands-on workshop; please bring your own fully charged laptop with tools installed.

Writing SOLID, testable ASP.NET Core applications has never been easier, but it may require a change in the way you typically structure your projects and their dependencies. In this hands-on workshop, you'll build a working ASP.NET Core application, complete with unit and integration tests. Along the way you'll learn the basics of Domain-Driven Development, and how to apply them to

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WORKSHOPS

All tracks

ASP.NET Core application development. The principles and patterns will apply to developers working with previous versions of ASP.NET MVC, as well. Presented by one of the primary authors of the official ASP.NET Core documentation (docs.asp.net).

SQL Server 2014 and 2016 New Features and Capabilities

Level: 300

David Pless & Tim Chapman **Microsoft**

Join Microsoft Field Engineers and MCMs Tim Chapman and David Pless as they discuss the exciting new SQL Server capabilities in SQL Server 2014 and SQL Server 2016. They will explore leveraging the In-Memory OLTP feature as well as a thorough overview of Columnstore Indexes. In-Memory OLTP, is a new engine for transaction processing, integrates into the SQL Server Engine improving database performance by 5–30x. Columnstore indexes, which are optimized for data-warehouse style queries, can provide up to 10x performance improvements for some of the most demanding decision support queries.

Also being explored will be the new database engine features included in SQL Server 2016, such as Query Store, Temporal tables, Always Encrypted, data masking, row level security, Stretch Database and improvements to Always-On Availability Groups.

PowerShell for the DBA from 0-60 in a Day

Level: 100-200

Ben Miller **Independent Consultant**

Think of how many servers or instances you maintain. Putting tools in your toolbox becomes a critical part of your life as a DBA. How many clicks can be reused? We will be taking you from 0–60, and everywhere in between, with how PowerShell fits into a DBAs day in the life. We will go from getting PowerShell connected to SQL Server to walking away with a toolbox starter kit that will help you get automated and allow you to focus on harder problems than modifying database options or getting information from SQL Server and storing it away for later analysis. The toolbox alone will make it well worth your attendance.

Join me in the quest to become a PowerShell DBA.

The PowerShell DevOps Crash Course

Don Jones **Independent Consultant**

Ready to learn PowerShell's ins and outs, tricks and tips, gotchas and more – from a DevOps perspective? PowerShell author and MVP Don Jones takes you on a full-day journey, helping you understand some of the shell's gnarliest under-the-hood workings, best practices, and easiest techniques. You'll walk away with a full transcript of Don's on-the-fly examples, as well as a solid base for writing advanced functions, using Desired State Configuration, and all of PowerShell's other advanced topics. No laptop required, and it's recommended you arrive fully caffeinated as this will be a fast-moving trip. Even if you think you already know the shell forwards and backwards, you're sure to learn new techniques and gain a new understanding of what PowerShell's really doing underneath the console.

Cloud Deployment Masterclass for SharePoint 2016 and Office 365 – 2017 Edition

Seb Matthews **Independent Consultant**

Jason Himmelstein **Rackspace**

Fact: SharePoint 2016 is now mature.

Fact: Office 365 is now a viable solution for the Enterprise.

Fact: Bring them together and you have a powerful toolset for Enterprise collaboration that is more than the sum of its parts.

Catch the wave of new releases!

This workshop will set you up with the knowledge you need to leverage the best of both the Azure on-prem power of SharePoint 2016 and the SaaS convenience of Office 365.

Delivered by two world-renowned specialists that live and breathe hybrid SharePoint with some of Microsoft's largest customers on a daily basis, the Masterclass will include:

- Deploying SharePoint 2016 to Azure
- Leveraging Azure for SharePoint
- Managing Identity for Hybrid
- Hybrid Search for SharePoint and Office 365
- And more

With hybrid now an accepted steady-state for SharePoint, you won't want to miss out on the chance to see how to get the very best out of your on-going investment in SharePoint both on-prem and online.

PRE-CONFERENCE Workshops

Sunday, May 21, 2017

9:00am - 4:00pm

Zen of Architecture

Juval Lowy

IDesign, Inc.

For the beginner architect, there are many options for doing pretty much anything. But for the Master architect, there are only a few. In this dense workshop Juval Lowy will explain his approach to large system analysis and design, using volatility to decompose a system into its comprising services. Juval will contrast it with the most common mistake done in architecture, using functionality to identify services. These are universal design principles, and Juval will use examples from software and non-software systems alike. You will also see how to overcome the real hurdles architects face pursuing volatility-based decomposing, simple and practical techniques for identifying areas of volatility, common telltale signs or "smells" when your design is still functional when using the Method, IDesign's approach for system architecture. You will learn how to literally mechanize software system design, how to do it quickly and effectively. Juval will also discuss logical tiers, security, interoperability, scalability, transactions, and other aspects of a modern application. The workshop concludes with discussion of how modern architecture fits into development processes such as Agile and how to design the development process for maximum productivity.

Building Single Page Applications with

Angular 4

Dan Wahlin

Wahlin Consulting

John Papa

JohnPapa.net, LLC

Workshop will have some hands-on aspects. Bring your own laptop fully charged.

Interested in learning how to build Single Page Applications with Angular 2? By using SPA frameworks you can provide a robust "desktop-like" experience for users while leveraging a web deployment model. Whether you've been building Angular 1 applications or you're brand new to Angular, this workshop will provide a ground-up approach to learning Angular 2 concepts.

The workshop explores the core pieces that help you build end-to-end SPA solutions including the role of ES6/TypeScript, project setup, code structure, using data binding and MV*, abstracted remote data calls through services, routing and more. You'll see several demos (and be provided with the code) throughout the workshop that will help you learn and understand the Angular 2 framework.

Topics that this workshop covers include:

- SPA fundamentals
- Importance of Separation of Concerns (SoC)
- ES6/TypeScript fundamentals
- Bootstrapping your application
- The Role of Components
- Using Annotations in Components
- Dependency injection
- Binding data to views
- Working with forms
- Managing remote data calls using services
- Routing and page navigation
- More...

Microservices and Containers – Platforms, Tools and Code: Day 2

Michele Leroux Bustamante

Solliance, Inc.

Workshop will have some hands-on aspects. Bring your own laptop fully charged.

Two-Day Workshop starts Saturday

Microservice architecture is the current evolution of application and enterprise architecture that takes the principles we remember from service-oriented architecture and applies them more discretely. When you apply Microservices architecture patterns and principles you decompose monolithic applications into smaller, more manageable and atomic parts – creating full-stack service silos – leveraging advances in containerization and DevOps culture. This approach enables teams to respond to rapidly changing business requirements more efficiently. Embracing Microservice architecture also forces you into better practices related to design and operations, by necessity, arguably as it should be.

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Introduction to ASP.NET Core – Hands-on Lab

Microsoft ASP.NET Team

Bring your own laptop fully charged.

Bring your laptop and you will learn about ASP.NET Core directly from the team that built it in this high-powered workshop. ASP.NET Core is a lean and composable framework for building web and cloud applications. ASP.NET Core is fully open source and available on GitHub. What does that ASP.NET Core mean for compatibility? What powerful new cloud scenarios does ASP.NET Core enable? We'll cover ASP.NET Core both inside and outside the IDE, on Windows, Mac, and Linux.

WORKSHOPS

All tracks

Identity & Access Control for Modern Applications and API's using ASP.NET Core: Day 2

Brock Allen

BrockAllen.com

There will be 1-2 hours of labs; please bring your own laptop with Visual Studio 2015 installed and fully charged.

Two-Day Workshop starts on Saturday, You will need to be signed up for Day 1 of this workshop to take Day 2.

Modern application design has changed quite a bit in recent years. "Mobile-first" and "cloud-ready" are the types of applications you are expected to develop. Also, to keep pace with these demands, Microsoft has revamped their complete web stack with ASP.NET Core 1.0 to meet these architectural demands.

Needless to say, you also have to secure these apps.

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This workshop covers everything you need to know to build modern and secure web, native & mobile applications. The foundation will be Microsoft's latest technology stack, but will also include IdentityServer4, which is the officially recommended framework for building token services.

Xamarin Forms Boot Camp

Carl Franklin

App vNext

Bring your own laptop fully charged. See notes below regarding additional requirements.

Xamarin Forms, Xamarin's solution for creating native iOS and Android apps completely in Visual Studio, is compelling. Getting started, however, can be daunting. There are many moving parts that all have to fall into place before we can write Hello World. This workshop will get you up and running in only one day. In this workshop we will walk through the setup process together, and write our first real cross-platform native app using Xamarin Forms all in C# and XAML, and using only Visual Studio. The workshop has two parts. The first half of the day will be devoted to setup. Bring your Mac. Bring your mobile device. Bring your (working, admin-access, and not crippled) laptop. We'll get your development environment set up correctly.

After lunch we'll dive into Xamarin Forms. We'll build a real app that runs on iOS, Android, and Windows Phone devices. We'll write platform-specific code for each app, and return real-time sensor data to the UI. You'll discover how to run native code inside a Xamarin Forms app. You'll build a real app using the MVVM pattern.

After taking this one day workshop you will be ready to develop native apps for the iPhone, iPad, Android Phones, and Windows Phones 100% in Visual Studio with C# and XAML.

Requirements: Please check this link for software requirements:

<https://developer.xamarin.com/guides/xamarin-forms/getting-started/installation/>

You must bring a laptop with the latest updates of Windows 10 and Visual Studio 2015, including the cross-platform (Xamarin) tools. It must have working WiFi. Please don't bring a slow or otherwise crippled machine. You must have full administrator access.

WORKSHOPS

All tracks

Catch the wave of new releases!

WORKSHOPS

All tracks

The recommended hardware for developing Xamarin apps is a MacBook with Windows 10 in a Bootcamp partition, and accessed via Parallels.

Bring an Android Phone or Device. If you have one, using a real phone will make Android app development go so much faster.

Azure for the SQL Server DBA

Tim Radney **SQLskills.com**

Microsoft Azure is an open, flexible, scalable, enterprise-grade cloud computing platform. This full day class will teach you why migrating to SQL Server running in Azure is secure, reliable, and easy, as well as how to do it.

The Azure platform is vast with many services to choose from. You will get a high-level overview of the various services with a focus on SQL Server running in Azure Infrastructure as a Service (IaaS) and Azure SQL Database as a Platform as a Service (PaaS).

You will see how easy it is to build a virtual machine in Azure running SQL Server and how to migrate your data. You will gain insight into licensing, security, pricing, and networking for connecting to the IaaS platform. You will quickly see how beneficial Azure VMs are, with the ability to scale workloads, integrate Active Directory, leverage built-in HA/DR options, and manage your environment. You will also learn why many companies are leveraging Azure VMs for disaster recovery.

As far as PaaS is concerned, you will learn about the features that Azure SQL Database offer, as well as the similarities and differences between it and on-premises SQL Server. You will learn various ways to check the compatibility of your on-premises databases, as well as migration methods, when we run a compatibility check and migrate it to Azure. You will gain a deep understanding of how to use and manage Azure SQL Databases.

If you are in need of building out a DR location for your organization, looking for an IaaS platform that is secure, easily scalable, and affordable, or are wanting to learn the benefits of Azure SQL Database, then this workshop is for you.

Performance Troubleshooting Using Waits and Latches

Paul S. Randal **SQLskills.com**

One of the first things you should check when investigating performance issues are wait and latch statistics, as these can often point you in the right direction for further analysis. Unfortunately, many people misinterpret what SQL Server is telling them and jump to conclusions about how to solve the problem – what is often called “knee-jerk performance tuning.” In this full-day workshop, you’ll learn how to investigate and interpret wait and latch statistics – practical techniques you can take home and start using immediately. You’ll also learn what a myriad of wait and latch types actually mean and how you can investigate lightly-documented types to gain insight into what causes them. Don’t waste time when it comes to performance troubleshooting; wait statistics are the fastest route to understanding your problems and this workshop will help you get there faster.

Microsoft PowerShell Team Day

Join members of Microsoft’s Windows Management Framework (WMF) team - the authors of PowerShell and DSC - for a series of straight-from-the-source sessions and demonstrations. You’ll learn about the latest practices and techniques, under-the-hood information, and more, covering automation, Windows PowerShell, Desired State Configuration, and related technologies and tools.

Building Applications for Office 365 and SharePoint with the SharePoint Framework

Scot Hillier **Independent Consultant**

SharePoint 2016 includes a new page and part development model, called the SharePoint Framework, that enables fully-supported client-side development for customizing SharePoint sites. The SharePoint Framework is based on modern client-side development technologies including NodeJS, TypeScript, React, and WebPack, but is flexible enough to support development with popular frameworks like Angular 2. All of this means that there are many development options for Office 365 and SharePoint whether on premises or in the cloud. In this workshop, modern client-side technologies will be used to build customizations and applications for Office 365 and SharePoint. Attendees will exit the workshop ready to build Office 365 and SharePoint applications with the SharePoint Framework.

POST-CONFERENCE Workshops Thursday, May 25, 2017 9:00am - 4:00pm

NativeScript: Cross-platform Native Mobile Apps with Angular

Rob Lauer **Progress**
Jen Looper **Progress**

Do you want to build native mobile apps for iOS and Android? Are you a web developer? Then NativeScript is the perfect framework for you. NativeScript is an open source framework for creating native mobile apps using the skills of the web developer: JavaScript, CSS and simple tag-based markup. Create rich, high-performance iOS and Android apps with 100% native UI using many of the skills you already have. In this workshop, you will gain all of the skills you need to immediately begin creating cross-platform native apps using the free and open source NativeScript framework.

Topics covered include:

- NativeScript framework core concepts and getting started
- Accessing native device capabilities with JavaScript
- Building native mobile apps with Angular 2
- Common app patterns (login, settings, data bound list and more)
- Styling NativeScript with CSS
- Targeting specific devices and screens
- Debugging and deploying to devices

There has never been a better (and easier) way for web developers to create native mobile apps. Impress your co-workers, clients and boss by joining this workshop and becoming a cross-platform mobile app developer in a day!

I Will Make You a Better C# Programmer – 2017 Edition

Kathleen Dollard **Crystal MEF Lab**

Kathleen’s back with an all new round-up of deep-dive topics and critical skills! If you’re an intermediate to advanced .NET programmer ready to explore commonly misunderstood or overlooked aspects of C# and the .NET framework, this workshop is for you.

This year’s workshop starts with a pragmatic look at the current state of the .NET roadmap. Then you’ll dive into how execution transfers and data moves through your application. This deeper

view of what the compiler and runtime do will help you understand performance implications and better predict generics, overloads and overrides behavior. You’ll also get a deeper understanding of delegates and lambdas, learn how to read MSIL (Intermediate Language), and get an introduction to Roslyn compiler trees.

Then, you’ll spend an hour working together on a series of puzzles focused on program execution, including inheritance, generics and performance. These puzzles also lay the groundwork for you to use unit tests to explore questions about the .NET framework on your own.

After lunch, you’ll learn more about functional approaches in C#. You can use the approaches you’ll learn in almost any version of C# and this will build on the morning’s discussion of delegates and lambdas. You’ll learn how you can apply functional refactoring to your own code to reduce redundancy and improve comprehension. You’ll also see how C# 7 continues the trend toward more functional features in C#.

This workshop, focused on program execution, ends with a session about where execution matters most – your production applications. You’ll learn more about logging and tracing systems, and how to prepare your application for ongoing monitoring, and those times you really need details about what just went wrong.

This workshop will make you a better coder. It’s new material, so if you’ve come before, come back for new insight. You know how vast the .NET framework is and how subtle C# can sometimes be – get better at building great programs in this amazing environment.

Advanced SQL Server High Availability

Brent Ozar **Brent Ozar Unlimited**

You’re not scared of clusters, log shipping, and database mirroring. You’ve even played around with AlwaysOn Availability Groups. You’re a DBA who wants to take it to the next level: you want to see what happens when you mix AlwaysOn Availability Groups and clustering with off-premise options like multiple data centers, Amazon EC2, Microsoft Azure, and SAN replication. You’re tired of the marketing hype, and you just want honest real-world answers about how these technologies work for your existing databases.

Brent Ozar will share real-world experience and his simple decision charts for:

- AlwaysOn Availability Groups
- Amazon EC2 and RDS
- Microsoft Azure VM roles and Azure SQL Database
- VMware and Hyper-V storage replication
- Other advanced scenarios not usually covered in typical HA/DR classes.

Finding and Fixing Performance Problems in SQL Server

Erin Stellato & Jonathan Kehayias **SQLskills.com**

Optimizing performance in SQL Server can be a complex task, and knowing where to start and what to look for is critical for getting to the root of the problem as fast as possible. In this workshop, you’ll learn how we go about optimizing SQL Server performance every day for our clients. We’ll cover the basic data collection methods we use to identify where problems might exist, explain how to interpret the results, and then show the appropriate steps to address a variety of common problems. Whether the issue is hardware related, design related, or code related, the practical information in the session will show you how to find the root of performance problems in SQL Server and optimize the system for better performance.

Cortana Intelligence Suite – Microsoft R for Architects

Buck Woody **Microsoft**

Workshop is hands-on; bring your own laptop!

In this hands-on workshop, you’ll cover a series of modules that guide you from a review of the R programming environment, the Cortana Intelligence Suite Process, the Cortana Intelligence Suite Platform, to the Microsoft R platforms including: Microsoft Open R, the Microsoft R Client, Microsoft R Server, SQL Server with R Services, R in Azure ML, and HDInsight with R. Final lab is an SQL Server R Services solution, but extrapolates to any Microsoft R platform.

Audience: Technical architects (or those with that role as part of their job) with some degree of familiarity with R and relational databases systems (RDBMS) who need to learn more about using R in the Microsoft R ecostructure, and need to know how the components work, how to plan, deploy and manage and tune a Microsoft R platform.

Modules in the course:

- Key Concepts in R
- The Microsoft R Platform
- R Client Options
- Operationalize Microsoft R Solutions
- Creating a Microsoft R Solution

Concepts Delivered:

- The R Interactive Environment, Data Structures, Functions, Libraries (Packages) and Code Flow
- The Microsoft R ecosystem
- Working with Client Options
- Planning, deploying, managing, and monitoring a Microsoft R platform
- Walking through a complete 6-step solution - SQL Server R Services focused

Technologies Covered:

- R (Introduction and basic coding only)
- The Microsoft R ecosystem
- SQL Server Stored Procedures, R Tools for Visual Studio, Azure ML
- R Tools for Visual Studio, other R clients demonstrated
- The Data Science Process as it is used in the Microsoft R Platform - SQL Server R Services as an example

Skills taught:

- Basic R coding
- Choose, install, configure and use the proper R environment for a given solution
- Connect to a Microsoft R platform from various client tools, run code locally and operationalize on server
- Understand how to plan, deploy, manage, tune and monitor a Microsoft R solution
- Deploy code to a Microsoft R Server, including SQL Server

Pre-Reqs:

- A subscription to Microsoft Azure (this may be provided through your company or as part of your invitation – you *must* have this enabled prior to class. You will be using Azure throughout the course, for all labs, work and exercises. You can use your MSDN subscription (<https://azure.microsoft.com/en-us/pricing/member-offers/msdn-benefits/>), your employer may provide Azure resources to you, or you may receive instructions in your class invitation.
- We’ll be using the Data Science Virtual Machine in Azure for the course. It has all of the tools you will need to

WORKSHOPS

All tracks

work with the materials. Make sure you're able to use the Remote Desktop Protocol (RDP) from your system to be able to work through the labs.

- A background in data technologies, such as working with Relational and Non-Relational data processing systems
- It's also a good idea to have a general level of predictive and classification Statistics, and a basic understanding of Machine Learning.

Optional: If you would also like to work with some of the tools locally (you still need an Azure subscription for this class), you can optionally install the following software locally:

- Visual Studio – the Community Edition (free) is acceptable, Version 2015 preferable: <https://www.visualstudio.com/en-us/products/visual-studio-community-vs.aspx>
- The Azure SDK and Command-line Tools installed: <https://azure.microsoft.com/en-us/downloads/>
- The Azure Storage Explorer: <http://go.microsoft.com/fwlink/?linkid=698844&clcid=0x409>
- Power BI Desktop Installed: <https://powerbi.microsoft.com/en-us/desktop/>
- The Microsoft R Client: <http://aka.ms/rclient/download> with the R tools for Visual Studio

SharePoint Online Development Options

Rob Windsor

Mark Rackley

Portal Solutions

PAIT Group

For the last few years, innovation for SharePoint is all happening in SharePoint Online. This innovation is happening at a very rapid pace; there seems to be something new or different every week or

Catch the wave of new releases!

two. It can be tough for developers to keep up with these changes and understand the options they have when developing for SharePoint Online. In this workshop, we will explore these options, see where and how they apply to different problem sets, and discuss their strengths and weaknesses. Over the course of the day we'll look client-side development with JavaScript, building add-ins with the SharePoint Add-In Model (a.k.a. App Model) and building client-side web parts with the SharePoint Framework.

Note: While this workshop focuses on development for SharePoint Online, much of the content also applies to development for the on-premises versions of SharePoint.

Developing Modern Cloud Applications in Azure

Level: 100-200

Mikkel Mork Hegnhøj, Paul Yuknewicz, Scott Hunter, Brady Gaster

Microsoft

You've heard about the benefits of developing cloud applications for Azure. Now you'll get your hands dirty and experience these for your self: developing, deploying, scaling, and debugging. Come join the Microsoft experts that built ASP.NET, Azure and Visual Studio and let's build some scalable cloud apps. We'll step through you a fast path to get existing apps up on Azure. We'll show you how to build modern scalable cloud app patterns for Web App and worker microservices using Docker. We'll also show you our tips for how to be incredibly productive building and debugging your app using Visual Studio, and we'll share our experiences together.



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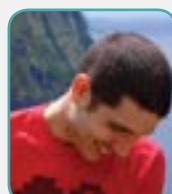
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