

Course duration

- 3 days

Course Benefits

- Azure DevOps Server editions and components
- Supported topologies and environments
- Must-have administration tools
- Hardware and software requirements
- Required service accounts and permissions
- Installing Azure DevOps Server
- Configuring Azure DevOps Server
- Managing relevant SQL Server components
- Installing and using Visual Studio Team Explorer
- Planning and creating project collections
- Planning and creating projects
- Using and customizing work item processes
- Azure DevOps Server licenses
- Connecting and using Microsoft Excel
- Installing and using Team Explorer Everywhere
- Using the Azure DevOps Server web portal
- Git and/or TFVC version control systems
- Basic and advanced version control workflows
- Using code search
- Repository security and permissions
- Command-line and third party tools
- Configuring/using Azure Pipelines for builds
- Deploying and using Azure Pipelines agents
- Configuring agent pools
- Creating and queuing automated builds
- Configuring Azure Artifacts
- Configuring/using Azure Pipelines for releasing
- Creating a release pipeline
- Creating and deploying a release
- Strategies for upgrading and migrating
- Integrating systems with Azure DevOps Server
- High availability and scalability options
- Virtual Filesystem for Git
- Capacity planning and disaster recovery
- Backing up, restoring, and moving data
- Configuring and using the Analytics service
- Using PowerShell to manage Azure DevOps Server
- Customizing Azure DevOps Server
- Extending Azure DevOps Server

Course Outline

1. Introduction to Azure DevOps Server
 1. Introduction to Azure DevOps Server
 2. Editions, components, and configurations
 3. Azure DevOps Server vs. Azure DevOps Services
 4. Azure DevOps Server support of ALM and DevOps
 5. Administrator responsibilities and tasks
 6. Hands-on lab
2. Planning/Deploying Azure DevOps Server
 1. Planning the deployment
 2. System requirements, software, and accounts
 3. Installing and configuring Azure DevOps Server
 4. Troubleshooting
 5. Installing Visual Studio Team Explorer
 6. Hands-on lab
3. Configuring Azure DevOps Server
 1. Administrator roles and tools
 2. Understanding and managing project collections
 3. Understanding and managing projects
 4. Selecting a work item process
 5. Configuring and securing projects
 6. Renaming and deleting a project
 7. Hands-on lab
4. Client Applications
 1. Admin console, Team Explorer, and the web portal
 2. Team Explorer Everywhere
 3. Microsoft Excel
 4. Command-line and third party tools
 5. Licensing and Client Access Licenses (CAL)
 6. Stakeholder (free) access level
 7. Hands-on lab
5. Version Control
 1. Introduction to Azure Repos
 2. Overview of Git and/or TFVC (legacy)
 3. Integration with Visual Studio
 4. Basic and advanced Git and/or TFVC workflows
 5. Branching, merging, and resolving conflicts
 6. Controlling access via repository permissions
 7. Hands-on lab
6. Building and Releasing
 1. Introduction to Azure Pipelines
 2. Configuring pipeline agents and agent pools

3. Creating and queuing a build pipeline
4. Monitoring and managing a build
5. Running automated tests in a pipeline
6. Measuring code coverage in a pipeline
7. Practicing Continuous Integration (CI)
8. Using YAML to create/configure a pipeline
9. Introduction to Azure Artifacts
10. Creating and using a private NuGet package feed
11. Creating a release pipeline
12. Creating and deploying a release
7. Upgrading, Integrating, and Migrating
 1. Upgrading Azure DevOps Server
 2. In-place vs. migration upgrade
 3. Pre-production dry runs for complex upgrades
 4. Deprecated features in Azure DevOps Server
 5. Performing post-upgrade tasks
 6. Integration with other ALM/DevOps tools
 7. Understanding and using service hooks
 8. Migrating to Azure DevOps Services
8. Advanced Administration
 1. Monitoring the health of Azure DevOps Server
 2. Web-based diagnostic tools
 3. Options for high availability and scalability
 4. Scaling up vs. scaling out Azure DevOps Server
 5. Virtual File System for Git
 6. Moving/Splitting project collections
 7. Disaster recovery, backup, and restore
 8. Using PowerShell to manage Azure DevOps Server
9. Customizing and Extending
 1. Customizing work tracking
 2. Creating and using an inherited process
 3. Using work item templates
 4. Extending Azure DevOps Server
 5. Using the Azure DevOps Server REST API
 6. Configuring and using the Analytics service
 7. Creating a custom report in Power BI

Class Materials

Each student will receive a comprehensive set of materials, including course notes and all the class examples.

Class Prerequisites

Experience in the following *is required* for this Azure DevOps Services class:

- Windows Server 2012, 2016, 2019.
- Windows security and networking basics.
- SQL Server 2016, 2017, or 2019.
- Visual Studio 2015, 2017, or 2019.
- Their organization's ALM/DevOps process and tools.
- Reading and understanding Visual C# code.