

Microsoft Azure: Infrastructure as Code

WorkshopPLUS

Focus Area: Change and Configuration Management

Duration: 3 Days

Difficulty: 300 - Advanced

Overview

Get hands-on with Infrastructure as Code by learning how to author and submit code from common tools into Azure Resource Manager (ARM). In this course you can choose learning paths for integrating with Microsoft 1st party and 3rd party open source including: Azure Templates, Terraform, Ansible, Azure Automation, and Desired State Configuration. You'll walk away understanding basic and advanced techniques for programmatically instructing Azure how to build-out and update your environments.

Objectives

After completing this training, students will be able to:

- Understand what infrastructure as code means
- Learn about the different tools available to manage code lifecycle
- How to manipulate & reference code
- Understand the structure of an Azure Template
- Set resource deployment order
- Onboard Azure Automation & DSC
- Learn to leverage & integrate third-party, open source software to develop the Azure environment
- Describe Ansible fundamentals, dynamic inventory and deploy Azure resources
- Learn Terraform best practices for deploying Azure resources
- Integrate Terraform with continuous integration / continuous delivery

Key Takeaways

Course Material

- Azure Templates
- Visual Studio Code

Hands-on Labs

- Most of the concepts covered above will be supported by hands-on labs and demos
- Utilize tools that integrate with Azure

Agenda

Day 1

- Introduction to Infrastructure as Code
- Tools
- Overview of Azure

Day 2

- Optional Module(s)

Day 3

- Optional Module(s)
- Q&A, as time permits

Plan for 3 full days. Early departure on any day is not recommended.

Course Details

Module 1: Introduction to IaC

- Overview of the meaning of IaC
- The lifecycle, repeatability, and usability of IaC
- Applications in real life integrations such as Azure DevOps

Module 2: Tools (Code Lifecycle)

- Overview of code editors
- Leveraging version control for code

Module 3: Azure (Overview)

- Review of Azure as a whole
- Azure Scaffolding & Governance

***Choose up to 3 option modules. Modules 4 and 6 count as 2 due to length.**

Hardware Requirements

- An Intel Core-i5-based PC
- Microsoft/Windows Live ID to connect to the virtual environment
- 4 GB RAM
- 128 GB HDD
- Windows 7 SP1 or later
- Internet access with at least 1 Mbps bandwidth per student.

Module 4: ARM Templates (option)

- Overview of Azure templates
- Intellisense & Functions
- Deployment methods & Deployment order
- Repeatability through Copy loops
- Advanced template architecting
- Troubleshooting template & deployment errors
- Creating templates from scratch – architecture goals

Module 5: Automation and DSC (option)

- Overview of Azure Automation
- Overview of Desired State Configuration
- Automation Shared Resources
- Automating DSC scripts
- PowerShell DSC vs Azure Automation DSC
- Applying and deploying DSC

Module 6: Ansible and Azure Together (option)

- Configure Ansible/Azure development environment
- Deploy Azure Infrastructure using Ansible
- Dynamically create inventory from Azure resources
- Integrate Ansible Vault with Azure Key Vault

Module 7: Terraform (option)

- Configure Terraform/Azure development environment
- Deploy Azure Infrastructure using Terraform

Recommended Qualifications

Target experience, expectations and qualifications, for example:

IT staff who have designed, deployed, or managed an Azure environment for at least one year

For more information

Contact your Microsoft Account Representative for further details.