

AZ-400T05 Implementing Application Infrastructure

Course Summary

Description

This course provides knowledge and skills to deploy an application infrastructure in DevOps pipelines. Students will learn how to implement infrastructure as code and configuration management, how to provision Azure infrastructure using common automation tools, and how to deploy an application infrastructure using various Azure services and deployment methodologies. Students will also learn how to integrate 3rd party deployment tools with Azure, such as Chef and Puppet to incorporate compliance and security into the release pipeline.

This class is part of the following 3-day comprehensive class: <https://www.protechtraining.com/moc-27400-2-microsoft-azure-devops-solutions-part-2-pt21917>

Objective

After completing this course, students will be able to:

- Apply infrastructure and configuration as code principles
- Deploy and manage infrastructure using Microsoft automation technologies such as ARM templates, PowerShell, and Azure CLI
- Describe deployment models and services that are available with Azure
- Deploy and configure a Managed Kubernetes cluster
- Deploy and configure infrastructure using 3rd party tools and services with Azure, such as Chef, Puppet, Ansible, SaltStack, and Terraform
- Define an infrastructure and configuration strategy and appropriate toolset for a release pipeline and application infrastructure
- Implement compliance and security in your application infrastructure

Topics

- Infrastructure and Configuration Azure Tools
- Azure Deployment Models and Services
- Create and Manage Kubernetes Service Infrastructure
- Third Party and Open Source Tools available with Azure
- Implement Compliance and Security in your Infrastructure
- Course Completion

Audience

Students in this course are interested in implementing application infrastructure and the management and configuration of that infrastructure, or in passing the Microsoft Azure DevOps Solutions certification exam.

Prerequisite

Students should have fundamental knowledge about Azure, experience with virtual machines and containers, and some exposure to automation and scripting.

Experience working in a software development or operations environment with either Windows or Linux would be helpful but is not essential.

Students should also have knowledge of general application development and deployment processes.

Duration

One Day

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Course Outline

- I. **Infrastructure and Configuration Azure Tools**
 - A. Learning Objectives
 - B. Infrastructure as Code and Configuration Management
 - C. Create Azure Resources using ARM Templates
 - D. Create Azure Resources using Azure CLI
 - E. Create Azure Resources by using Azure PowerShell
 - F. Additional Automation Tools
 - G. Version Control
 - H. Lab Deploy to Azure using ARM templates
 - I. Module Review Questions
- II. **Azure Deployment Models and Services**
 - A. Learning Objectives
 - B. Deployment Models and Options
 - C. Azure Infrastructure-as-a-Service (IaaS) Services
 - D. Azure Automation with DevOps
 - E. Desired State Configuration (DSC)
 - F. Azure Platform-as-a-Service (PaaS) services
 - G. Azure Service Fabric
 - H. Lab Azure Automation - IaaS or PaaS deployment
 - I. Module Review Questions
- III. **Create and Manage Kubernetes Service Infrastructure**
 - A. Learning Objectives
 - B. Azure Kubernetes Service
 - C. Lab Deploy and Scale AKS Cluster
 - D. Module Review Questions
- IV. **Third Party and Open Source Tools available with Azure**
 - A. Learning Objectives
 - B. Chef
 - C. Puppet
 - D. Ansible
 - E. Cloud-Init
 - F. Terraform
 - G. Lab Provision and configure an App in Azure Using X
 - H. Module Review Questions
- V. **Implement Compliance and Security in your Infrastructure**
 - A. Security and Compliance Principles with DevOps
 - B. Azure Security Center
 - C. Lab Integrate a scanning extension or tool in an AZ DevOps pipeline/security center
 - D. Module Review Questions
- VI. **Course Completion**
 - A. Final Exam