Implementing Application Infrastructure (AZ-400T05)

Modality: Virtual Classroom

Duration: 1 Day

SATV Value: 1

If you enroll in all the AZ- 400 series trainings (400T01, 400T02 ….. and 400T07) without the Master Subscription plan, you receive a Free Official Exam Voucher (excluding purchases using Training Vouchers / SATV) for the AZ-400 Exam. This course does not include Exam Voucher if enrolled within the Master Subscription, however, you can request to purchase the Official Exam Voucher separately.

About this course:

The primary focus of this course is to guide participants and help equip them with the skill set needed to deploy an application infrastructure in Dev Ops pipelines.

This course will go into details of the methods of implementing infrastructure as a code. It will also teach participants the basics of configuration management. Moreover, it will also guide students as to how to provision Azure infrastructure through the use of commonly used automation tools. This course also deals with the techniques of deploying an application infrastructure via different Azure services and deployment techniques. A session on how to incorporate third party deployment tools with Azure, such as Chef and Puppet in order to integrate compliance and security into the release pipeline.

Course Objective:

Upon completion of the course , the participants should have learnt the following skills and be able to ;

- Acquire the skills needed to apply infrastructure and configuration as a code
- Become skilled at Microsoft automation technologies such as ARM templates, Power Shell and Azure CLI and use these technologies to deploy and maintain infrastructure.
- Thoroughly understand and explain different deployment models and services which are available in Microsoft Azure
- Learn the skills needed to deploy and configure a managed Kubernetes cluster
- Learn the skills needed to deploy and configure infrastructure via the use of 3rd party tools and services with Azure, such as Chef, Puppet, Ansible, Salt Stack and Terraform
- Understand and explain a comprehensive infrastructure and configuration strategy .
- Understand and describe an appropriate toolset for a release pipeline and application infrastructure
- Learn the skills needed to execute compliance and security in the infrastructure

of an application.

Audience:

This course is designed to cater to the following audience;

- Thos IT individuals who possess an interest in implementing application infrastructure and subsequently in the management and configuration of the said infrastructure.
- Thos who wish to clear the Microsoft Azure DevOps Solutions certification exam.

Prerequisites:

The following pre requisites are absolutely necessary for taking this course.

- A basic working knowledge of Microsoft Azure.
- Experience working with virtual machines and containers.
- A basic familiarity with automation and scripting.
- Some experience with working in software development or in the operations sector with using either Windows or Linux. This is not a must but it is preferred.
- A thorough understanding of the basic concepts of general application development and the process of deployment.

Course Outline:

Module 1: Infrastructure and Configuration Azure Tools

Lessons

- Learning Objectives
- Infrastructure as Code and Configuration Management
- Create Azure REsources using ARM Templates
- Create Azure Resources using Azure CLI
- Create Azure Resources by using Azure PowerShell
- Additional Automation Tools
- Version Control
- Lab Deploy to Azure using ARM templates
- Module Review Questions

After completing this module, 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

Module 2: Azure Deployment Models and Services

Lessons

- Learning Objectives
- Deployment Models and Options
- Azure Infrastructure-as-a-Service (IaaS) Services
- Azure Automation with DevOps
- Desired State Configuration (DSC)
- Azure Platform-as-a-Service (PaaS) services
- Azure Service Fabric
- Lab Azure Automation - IaaS or PaaS deployment
- Moduel Review Questions

After completing this module, students will be able to:

- Describe deployment models and services that are available with Azure

Module 3: Create and Manage Kubernetes Service Infrastructure

Lessons

- Learning Objectives
- Azure Kubernetes Service
- Lab Deploy and Scale AKS Cluster
- Module Review Questions

After completing this module, students will be able to:

- Deploy and configure a Managed Kubernetes cluster

Module 4: Third Party and Open Source Tools available with Azure

Lessons

- Learning Objectives
- Chef
- Puppet
- Ansible
- Cloud-Init
- Terraform
- Lab Provision and configure an App in Azure Using X
- Module Review Questions

After completing this module, students will be able to:

- Deploy and configure infrastructure using 3rd party tools and services with Azure, such as Chef, Puppet, Ansible, SaltStack, and Terraform

Module 5: Implement Compliance and Security in your Infrastructure

Lessons

- Security and Compliance Principles with DevOps
- Azure Security Center
- Lab Integrate a scanning extension or tool in an AZ DevOps pipeline/security center
- Module Review Questions

After completing this module, students will be able to:

- Define an infrastructure and configuration strategy and appropriate toolset for a release pipeline and application infrastructure
- Implement compliance and security in your application infrastructure

Module 6: Course Completion

?Lessons

- Final Exam

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