

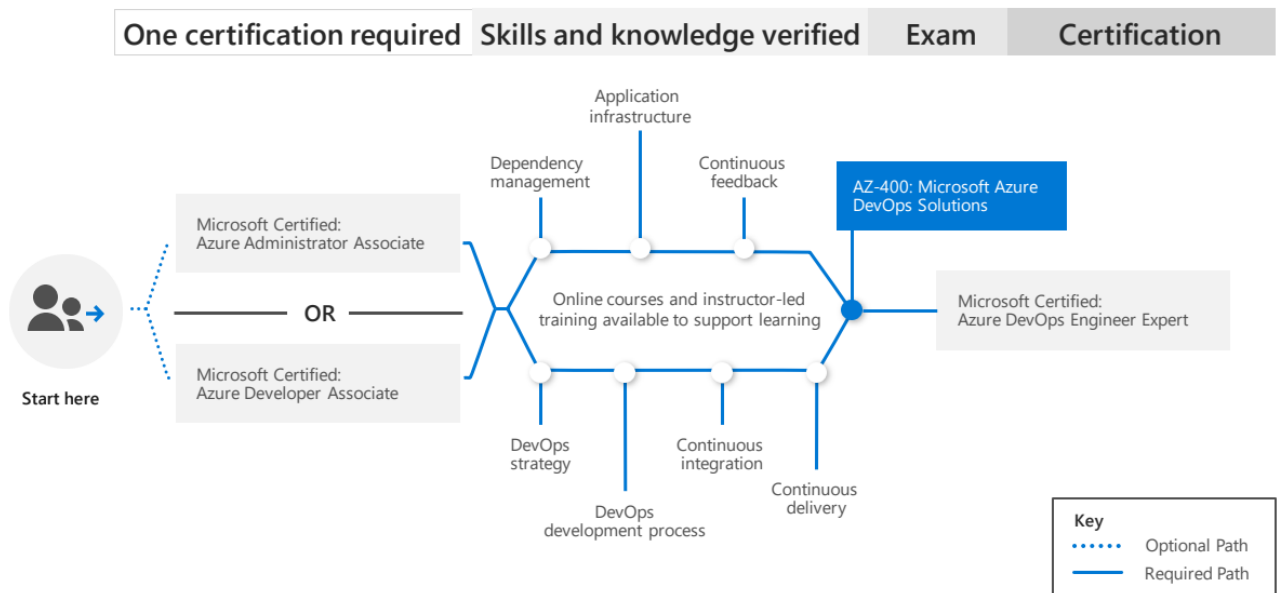
**INTRODUCTION | SCM GIT | CI/CD WITH JENKINS| AZURE CLI | AZURE POWERSHELL | VSTS | DOCKER CONTAINER | AZURE PIPELINE | AZURE BOARDS | AZURE SECURITY**

**12 MODULE | 30 LABS | CERTIFICATION ASSISTANCE**

## QUOTATION AND COURSE OUTLINE

### TECHPLEDGE CERTIFIED AZURE DEVOPS PROFESSIONAL

#### EXAM AZ 400- MICROSOFT AZURE DEVOPS SOLUTIONS



#### Course Materials

TechPledge will provide a customized set of Lecture Notes for each class scheduled along with Recorded video . You will be given a PDF file which you may make copies from, email to your participants, or make available via internal website.

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## Learning Path for Azure DevOps Professional

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Azure DevOps professionals combine people, process, and technologies to continuously deliver valuable products and services that meet end user needs and business objectives. At the TechPledge we provide the training which is always updated inline with the Azure DevOps Skills required by the industry and recommended by Microsoft. Below is the patch for training

### Evolve your DevOps practices

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- *See how value stream maps can help you evaluate your current processes and technologies*
- *Sign up for your free Azure DevOps organization*
- *Learn how to plan and track work items using Azure Boards*
- *Optimize sprint workloads across multiple Agile teams*

### Build applications with Azure DevOps

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- *Collaborate with others to build your applications using Azure Pipelines and GitHub*
- *Run automated tests in your pipeline to validate code quality*
- *Scan your source code and third-party components for potential vulnerabilities*
- *Define multiple pipelines that work together to build your application*
- *Build applications using both Microsoft-hosted agents and your own build agents*

### Deploy applications with Azure DevOps

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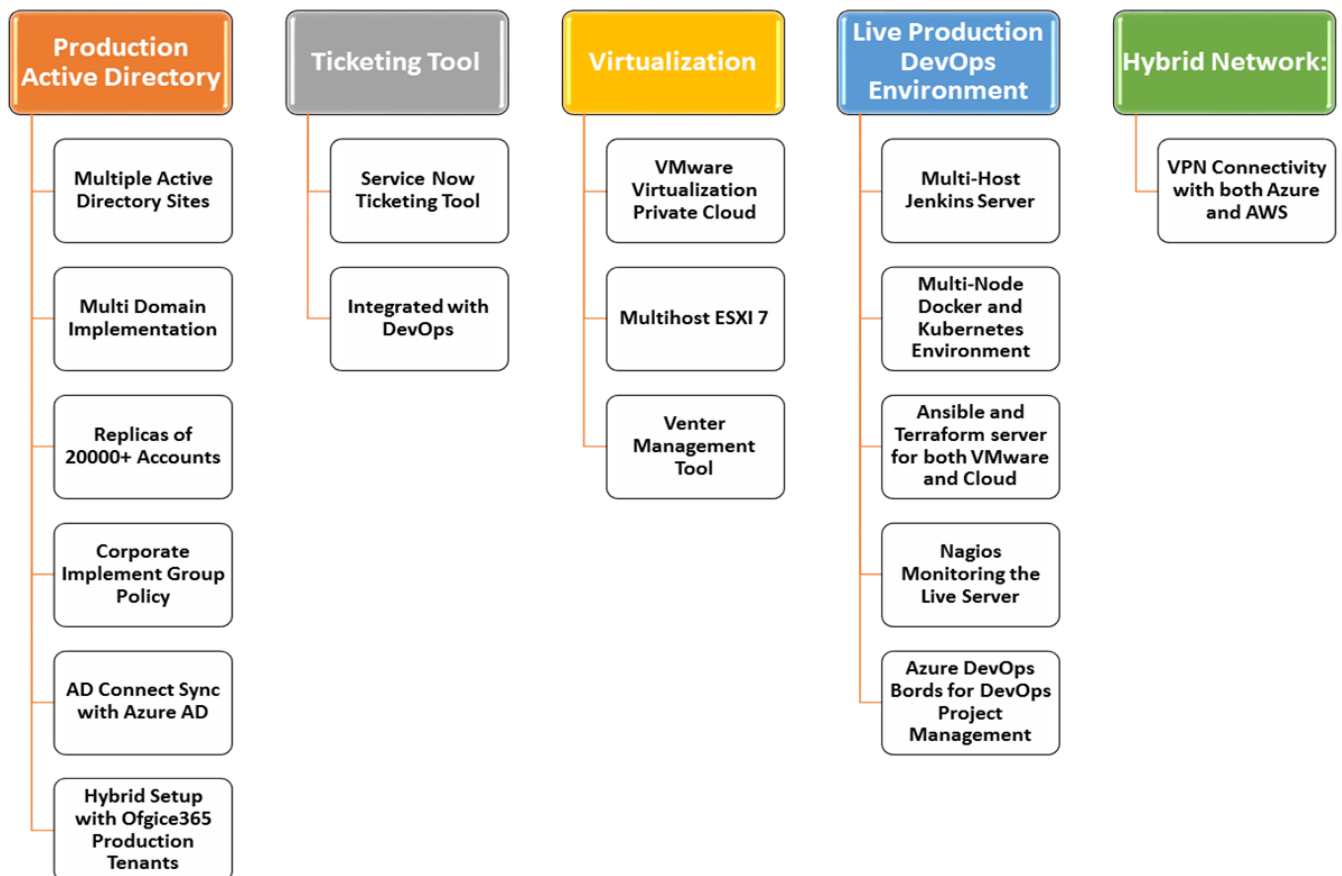


- *Create a basic release pipeline that deploys a web application to Azure App Service.*
- *Build a more complete pipeline that deploys to multiple development and testing stages.*
- *Run functional and non-functional tests that verify your application's behavior and performance.*
- *Choose and implement an appropriate deployment pattern to smoothly roll out new features to your users*

## Abilities Validated by the Certification

- Design a DevOps strategy
- Implement DevOps development processes
- Implement continuous integration
- Implement continuous delivery
- Implement dependency management
- Implement application infrastructure
- Implement continuous feedback

## Customer Immersion – Live Production Walkthrough



6 Hours Live walkthrough the complete DevOps Process in production environment with full setup of Infrastructure Like **AD**, DevOps Tool Like **Jenkins , Ansible , Docker , AWS Code Deploy , AWS Code Pipeline , Azure Pipeline** and **Azure ARM** and Development Environment with Maven, Visual Studio and Python.

The Complete Setups is using **100** of **PowerShell & Linux Script** with **237 CI/CD scripts** (Jason, Yamal).

Below is the High-Level Setup Outline of our Customer Immersion Production Replicas. Student will get the access of this setup at end of the course for 6 hours with AD ID and Organization Email.

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## Learn while doing with our Sandbox Environment

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### Azure Sandbox

- Connect with Azure Portal through the TechPledge Provide sandbox environment and play with it will all labs which you want to try.
- Create, destroy, and build Practical, scenario-based applications with ease. Our pre-configured, auto-provisioned servers allow you to try new skills, risk-free.



### AWS Sandbox

- Connect with AWS Console through the TechPledge Provide sandbox environment and play with it will all labs which you want to try.
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## Course Outline

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### 1. Introduction to DevOps

- Why DevOps?
- What is DevOps?
- Difference type of software development process
- Waterfall, Agile, Scrum and CMMI
- DevOps Market Trends
- DevOps Engineer Skills
- DevOps Delivery Pipeline
- DevOps Ecosystem
- **Lab 1:** Create a DevOps Flow for SDLC process on draw.io
- **Lab 2:** Create a Agile DevOps Flow for SDLC process on draw.io

### 2. Getting started with Source Control

- GitHub Introduction
- Working with Git Hub Features
- Create Public and Private Repository
- Create Teams in GitHub
- Git Desktop Tool install and Configure
- Git GUI Tool install and Configure
- GIT CMD Tool install and Configure
- Git Life cycle Commands
- Pushing Code to GitHub
- Staging Code in git
- Creating, Deleting Git Branches
- Pulling from GitHub
- Merging branches using git merge
- **Lab3:** Emulate a complete workflow for Git in production which include: Repository, Branch, Issues, Team, Forge and Tracking using Git Hub
- **Lab4:** Use Git Hub and Git Desktop to Emulate a complete workflow for SCM Create Local repo, Publish as Remote repo, Clone, Branching, Merge Branching, History
- **Lab5:** Use Git Hub and Git GUI to Emulate a complete workflow for SCM use Local repo, Scan, Stage Commit, Push and Pull the code update
- **Lab6:** Use Git Hub and Git CMD to Emulate a complete workflow for SCM use Local repo, Add , Commit, Push and Pull the code update

### 3. Automation of Azure Using Azure CLI & PowrsShell

- Azure CLI for Azure Automation
- Activate Azure CLI on Azure
- View Resource Group Provisioning
- Create Resource Group Using CLI
- Create IAM User Using CLI
- Create VM using CLI

- Access Storage Using CLI
- **Lab7:** Provision and Deprovision a Resource Group using Azure Cli
- **Lab8:** Provision and Deprovision a Azure Virtual Machine using Azure Cli
- **Lab9:** Provision and Deprovision a Resource Group using Azure PowerShell
- **Lab10:** Provision and Deprovision a Azure Virtual Machine Azure PowerShell
- **Lab11:** Review the Management process of Azure Production Environment using Azure CLI & Azure PowerShell with Customer Immersion Environment

#### 4. CI/CD with Jenkins

- Jenkins Management
- Deploy Jenkins on Azure
- Create Sample Project
- Git Integration with Jenkins
- Building Delivery Pipeline
- Pipeline as a Code
- Overview Implementation of Jenkins in the Multinode Environment
- Provision Azure Virtual Machine with Jenkins using Azure CLI
- **Lab12:** Launch an Azure VM Instance using Jenkins With Azure Connector
- **Lab13:** Deploy Directory and Collect Inventory File copy using mapped network using Jenkins Pipeline

#### 5. Configuration Management with Ansible on Azure

- Ansible Basic
- Infrastructure as Code
- Activate Ansible on Azure
- **Lab14:** Create Playbook for – Resource Group Provisioning & Deprovisioning
- **Lab15:** Create Playbook for – Virtual Network Provisioning with custom CIDR and Subnet
- **Lab16:** Create Playbook for – Deploy a Webapp with Container Image from Docker Registry
- **Lab17:** Create Playbook for – Azure Linux Virtual Machine Provisioning with SSH Key Authentication
- **Lab18:** Create Playbook for – Azure Windows Virtual Machine Provisioning with Pass Authentication
- **Lab19:** Create Playbook for –Storage Account and Blob Storage Provisioning

#### 6. Visual studio Online

- Overview of VSTS
- Create VSTS Account
- Create Organization in Azure DevOps
- Roles and Responsibilities in Vsts
- Create Project and User mapping to vsts
- VSTS Access to Different roles
- Project management using vsts
- Test case Management through vsts
- Methodologies In VSTS (SCRUM,AGILE,CMMI)
- Can Ban Board Management
- **Lab20:** Configure the Azure Boards with Sample Basic Work items, Backlogs and Workflow

- **Lab21:** Configure the Azure Boards with Sample Agile Work items, Iteration, Tasks and Workflow

## 7. Configuring Users and Security

- Overview of VSTS security
- Adding or removing users in your VSTS account
- Configuring security using team project groups
- Fine-grain security options
- **Lab22:** Define Security on Azure DevOps Project

## 8. Implement & Manage Build Infrastructure

- The concept of pipelines in DevOps
- Introduction to Azure Pipelines
- Pipelines & Concurrency
- Azure DevOps and Open Source projects
- **Lab23:** Provision the WebApp Artifacts from GitHub for Deployment on Azure Webapp

## 9. Set up a Release Management Workflow

- Introduction to Continuous Delivery
- Release strategy recommendations
- Building a High-Quality Release pipeline
- Create a Release Pipeline
- Provision and Configure Environments
- **Lab24:** Deploy the WebApp using Build created with Azure Pipeline

## 10. Infrastructure and Configuration Azure Tools

- Infrastructure as Code and Configuration Management
- Overview of Azure ARM Template
- ARM Template Parameter
- Create Azure Resources using ARM Templates
- Create Customized ARM Template
- Use Git Hub for ARM Template
- Use Microsoft ARM Template for Infrastructure provisioning
- Version Control
- **Lab25:** Create Resource Groups with ARM template
- **Lab26:** Deploy a Virtual Machine Using ARM template
- **Lab27:** Deploy a Webapp with ARM template from github

## 11. Create and Manage Kubernetes Service Infrastructure

- Learning Objectives
- Azure Kubernetes Service
- Lab Deploy and Scale AKS Cluster
- **Lab28:** Deploy a Docker Web Image with Azure Container Service

## 12. DevOps Design Strategy

- Design a License Management Strategy, for example:
- VSTS Users
  - Concurrent Pipelines
  - Test Environments
  - Open Source Software Licensing
  - 3rd-party DevOps Tools and Services
  - Package Management Licensing
- Design a Strategy for End-to-End Traceability from Work Items to Working Software
- Design a Strategy for Integrating Monitoring and Feedback to Development Teams
- Design an Authentication and Access Strategy
- Design a Strategy for Integrating On-premises and Cloud Resources
- **Lab29:** Create a Sample DevOps Flow Using Draw.io
- **Lab30:** Review The Infographic of an Sample Azure DevOps Workflow at Customer Immersion

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**Course Fee**

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Call for Price