Azure DevOps

	Level	Duration
⚙⚙	Tailor Made	1-5 day(s)

Course Description

- The main objective of this course is to expose users to AzureDevops and how to use it.

Audience and prerequisites

- This course(s) are for everyone who need to get familiar with DevOps and the main tools

Main Goals

- Understand the basics of DevOps
- Agile in Nutshell
- Get familiar with the most common DevOps tools
- Apply recommended practices for effective and efficient automation with Ansible.
- Perform automation operations as rolling updates.
- Create automation execution environments to contain and scale Ansible Automation.
- Leverage capabilities of the automation content navigator to develop Ansible Playbooks.

List of courses

Course	Duration
Azure DevOps Fundamentals	1 day
Azure DevOps Boards	1-2 days
Azure DevOps CI/CD	1-2 days

Azure DevOps Fundamentals

- Overview
  - This Fundamental course will teach users how to work with Azure DevOps.
  - The course will cover the following topics relevant to the development & management of projects:
    - Planning
    - Managing
    - Coding
    - Deploying
    - and more ….

Module	Content
Overview	**Introduction to Azure DevOps**
	◆ Quick overview of AzureDevOps concepts and features
	◆ Usages
	◆ Collections / Projects
	◆ Azure DevOps components
	◆ Azure Boards
	◆ Azure Repos
	◆ Azure Pipelines
	◆ Azure Test Plans
	◆ Azure Artifacts
	◆ Collection / Project settings
	◆ Teams/permissions
Azure Boards	**Project management - Azure Boards**
	Azure boards intro
	◆ Agile
	◆ Scrum
	◆ Kanban
	◆ Sprints
	◆ Azure boards components
	◆ Work items
	◆ Dashboards
	◆ Wiki
	◆ Boards
	◆ Queries
	◆ Customize
Azure Repos	**Source Control - Azure Repos**
	◆ Azure Repos Introduction
	◆ Azure Repos with Azure Boards
	◆ GIT vs TFVC
	◆ Branches + Branch flows
	◆ Policies

	◆ Branch Locks
	◆ Pull Requests
	◆ Tags
	◆ Code Review
Azure Pipelines	**Implementing CI/CD - Azure Pipelines**
	◆ CI/CD Overview
	◆ Azure DevOps automation introduction
	◆ Introduction Build / Pipelines / Releases
	◆ Tasks / Task Groups
	◆ Agents / Self-hosted / Cloud
	◆ Classic vs YAML Pipelines
	◆ Config / Secrets / Variables
	◆ Global variables
	◆ Variable groups
	◆ System variables
	◆ API / PAT / Tokens
	◆ Service connections
	◆ Implementing Continuous Integration in an Azure DevOps Pipeline
	◆ Implementing Continuous Delivery in an Azure DevOps Pipeline
	◆ Implementing Continuous Deployment in an Azure DevOps Release
	◆ Policies / Gates / Stages / Triggers
	◆ Configuration
	◆ Hooks
	◆ Publishing artifacts
	◆ Manage releases
Azure Artifacts	**Manage dependencies / Feeds / Artifacts**
	◆ Azure Artifacts Introduction
	◆ Azure Artifacts Feeds
	◆ CI/CD Artifacts/Azure Artifacts
	◆ Views
	◆ Upstream
	◆ Versioning

Azure Test Plans	Testing with Azure DevOps
	◆ Azure Test Plan Introduction
	◆ Azure Test Plan tests types
	◆ Azure Test Plan configuration
	◆ Azure Test Plan execution

Azure DevOps Boards

- Overview
  - The main purpose of this course is that participants will have a deep understanding and knowledge of how to use Azure DevOps Boards
- The course is a Hands-on course

Module	Content
Introduction	**Introduction to Azure DevOps Boards**
	◆
	◆ Agile in Nutshell
	◆ Scrum
	◆ Kanban
	◆ Sprints
	◆ Azure boards components
	◆ Azure DevOps Boards intro
	◆ Work items
	◆ Dashboards
	◆ Backlogs
	◆ Wiki
	◆ Boards
	◆ Queries
	◆ Filters
	◆ Story point
	◆ GUI overview
Boards - Hands-On	
	◆ Create a demo project with content for the course
	◆ Create a demo sprint(s)
	◆ Create the relevant work items for the project
	◆ Backlog
	◆ EpIc
	◆ Task
	◆ SubTask
	◆ Define a basic workflow/process
	◆ Working with boards
	◆ Customizing boards
	◆ Working with swimlanes (columns)
	◆ Adding columns
	◆ Permissions

	◆ Queries
	◆ Filters
	◆ Custom fields
	◆ Customize work item types
Dashboards	
	◆ Build and customize dashboards based on our demo project.
	◆ Dashboards intro
	◆ Widget
	◆ Charts
	◆ Tiles
	◆ Building boards
	◆ Adding custom queries to boards
	◆ Build in boards /quires
	◆ Burn up / burn down
	◆ Sprint
	◆ Custom
	◆ Work items
	◆ Repo widgets
	◆ PR
	◆ Builds
	◆ Deployments
	◆ Releases
	◆ Marketplace widgets

Azure DevOps CI/CD

- Overview
  - The main purpose of this course is that participants will have a deep understanding and knowledge of how to benefit from Azure DevOps Pipelines (CI/CD)
  - The path of the course is to build an Azure DevOps project from end-to-end, starting with defining the Work items (Azure Boards) and coding them (Azure Repos) and the main focus is on building and deploying the artifacts into multiple environments

Module	Content
Preparation	**Project preparation**
	◆ Quick overview of Azure Repos / Azure Pipelines
	◆ Preparations
	◆ Teams
	◆ SSH keys
	◆ Token / PAT / service connections
	◆ 3rd party integration overview
Create a Demo Project	
	◆ Create a demo project with content for the course
	◆ Create the relevant work items for the project
	◆ Build the base code skeleton as a GIT repository
CI/CD - Azure Pipelines	
	◆ DevOps CI/CD Overview
	◆ Azure DevOps automation introduction
	◆ Introduction Build / Pipelines / Releases
	◆ Tasks / Task Groups
	◆ Agents / Self-hosted / Cloud
	◆ Classic vs YAML Pipelines
	◆ Config / Secrets / Variables
	◆ Global variables
	◆ Variable groups
	◆ System variables
	◆ API / PAT / Tokens
	◆ Service connections
Hand-On - Azure Pipelines	
	◆ Implementing Continuous Integration in an Azure DevOps Pipeline
	◆ Build a basic deployment (Docker container)
	◆ Inject content to Docker containers
	◆ Policies
	◆ Gates
	◆ Triggers

- ◆ Implementing Continuous Delivery in an Azure DevOps Pipeline
  - ◆ Pack
  - ◆ Artifacts
  - ◆ Manage the release of pipelines
  - ◆ Feeds
  - ◆ Parallel stages
  - ◆ Serial stages
- ◆ Implementing Continuous Deployment in an Azure DevOps Release
  - ◆ Stages
  - ◆ Jobs
  - ◆ Steps
  - ◆ Deployment Groups
  - ◆ Deployment strategies
  - ◆ Manage artifacts
  - ◆ Deployment resources
- ◆ Hands-on
  - ◆ Agents - Cloud / Self-hosted
  - ◆ YAML Pipelines
  - ◆ Classical view
  - ◆ Configuration
  - ◆ Tasks / Task Groups
  - ◆ Agents / Self-hosted / Cloud
  - ◆ Classic vs YAML Pipelines
  - ◆ Config / Secrets / Variables
    - ◆ Global variables
    - ◆ Variable groups
    - ◆ System variables
    - ◆ API / PAT / Tokens
    - ◆ Service connections
- ◆ 3rd party integration
  - ◆ Azure
  - ◆ Key-Vault

	◆ Docker registry/hub
	◆ Hooks
	◆ Publishing artifacts
	◆ Manage releases
	◆ Gates / Approvals
	◆ Feedback (work items, git, etc)

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