Curriculum

Overview of DevOps (Day 1)

**Learning Objective:** In this module you will be introduced to DevOps environment.

**Topics:**

* Why DevOps?
* What is DevOps?
* DevOps Market Trends
* DevOps Engineer Skills
* DevOps Delivery Pipeline
* DevOps Ecosystem

Version Control with Git

**Learning Objective:** In this module you will be introduced to DevOps environment.

**Topics:**

* What is version control
* What is Git
* Why Git for your organization
* Install Git
* Common commands in Git
* Working with Remote Repositories

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**Hands On: (Google Cloud Platform)**

* GIT Installation, Version Control, Working with remote repository

Git, Jenkins & Maven Integration (Day 2)

**Learning Objective:** In this module, you will learn about the different actions performed through git

and will be introduced to Jenkins and maven.

**Topics:**

* Branching and Merging in Git
* Git workflows
* Git cheat sheet
* What is CI
* Why CI is Required
* Introduction to Jenkins (With Architecture)
* Introduction to Maven

**Hands On: (Google Cloud Platform)**

* Branching and merging, Stashing, rebasing, reverting and resetting
* Build and automation of Test using Jenkins and Maven

Continuous Integration using Jenkins (Day 3)

**Learning Objective:** In this module, you will know how to perform Continuous Integration using

Jenkins by building and automating test cases using Maven.

**Topics:**

* Jenkins Managementww.edureka.co © 2018 Brain4ce Education Solutions Pvt. Ltd. All rights Reserved.
* Adding a slave node to Jenkins
* Building Delivery Pipeline
* Pipeline as a Code
* Implementation of Jenkins

**Hands On: (Google Cloud Platform)**

* Build the pipeline of jobs using Jenkins
* Create a pipeline script to deploy an application over the tomcat server

Continuous Testing with Selenium (Day 4)

**Learning Objective:** In this module, you will learn about selenium and how to automate your test

cases for testing web elements. You will also get introduced to X-Path, TestNG and integrate Selenium

with Jenkins.

**Topics:**

Introduction to Selenium

Why Selenium?

Selenium – Webdriver

Creating Test Cases in Selenium WebDriver (Waits)-**Java**

Selenium Integration with Jenkins

Implementation of Selenium

**Hands On:**

* Installing Selenium
* Creating Test Cases in Selenium WebDriver.edureka.co © 2018 Brain4ce Education Solutions Pvt. Ltd.
* Integrating Selenium with Jenkins

Continuous Deployment: Containerization with Docker (Day 5)

**Learning Objective:** This module introduces Docker to readers, the core concepts and technology

behind Docker. Learn in detail about container and various operations performed on it.

**Topics:**

* Shipping Transportation Challenges
* Introducing Docker
* Understanding images and containers
* Running Hello World in Docker
* Introduction to Container
* Container Life Cycle
* Sharing and Copying
* Base Image
* Docker File
* Working with containers
* Publishing Image on Docker Hub

**Hands On: (Google Cloud Platform)**

* Create and Implement docker images and containers

Containerization with Docker: Ecosystem and Networking (Day 6)

**Learning Objective:** In this module, you will learn to integrate different containers using docker.

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* Introduction to Docker Ecosystem
* Docker Compose
* Docker Swarm
* Managing Containers
* Running Containers
* Introduction to Docker Networking
* Network Types
* Docker Container Networking
* Implementation of Docker

**Hands On: (Google Cloud Platform)**

* Use Docker Compose to create a WordPress site
* Start Containers on a Cluster with Docker Swarm
* Deploy a multi-tier application over a cluster
* Scale an application

Continuous Deployment: Configuration Management with Puppet (Day 7)

**Learning Objective:** In this module, you will learn to install and configure Puppet. Additionally,

understand the master-agent architecture in Puppet.

**Topics:**

* Introduction to Puppet
* Puppet Installation
* Puppet Configuration
* Puppet Master and Agent Setup
* Puppet Module
* Node Classificationwww.eco © 2018 Brain4ce Education Solutions Pvt. Ltd. All rights Reserved.
* Puppet Environment
* Puppet Classes
* Automation & Reporting

**Hands On: (Google Cloud Platform)**

* Install and configure Puppet
* Configure and implement servers using Puppet

Configuration Management with Ansible (Day 8)

**Learning Objective:** In this module, you will learn to install Ansible and configure ansible roles. You

will also learn to write playbooks and finally execute ad-commands using Ansible.

**Topics:**

* Introduction to Ansible
* Ansible Installation
* Configuring Ansible Roles
* Write Playbooks
* Executing adhoc command

**Hands On: (Google Cloud Platform)**

* Installing Ansible
* Configuring Ansible Role
* Write Playbooks
* Execute adhoc commands

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Containerization using Kubernetes (Day 9)

**Learning Objective:** In this module, you will learn the basics of Kubernetes and its integration with

Docker.

**Topics:**

* Revisiting Kubernetes Cluster Architecture
* Spinning up a Kubernetes Cluster on Ubuntu VMs
* Exploring your Cluster
* Understanding YAML
* Creating a Deployment in Kubernetes using YAML
* Creating a Service in Kubernetes
* Installing Kubernetes Dashboard
* Deploying an App using Dashboard
* Using Rolling Updates in Kubernetes
* Containers and Container Orchestration
* Introduction to Kubernetes

**Hands On: (Google Cloud Platform)**

* Setting up the Kubernetes Cluster
* Accessing your application through service
* Deploying an app through Kubernetes Dashboard
* Rolling updates in Kubernetes

Continuous Monitoring with Nagios (Day 10)

**Learning Objective:** Learn how to continuously monitor your tasks using various plugins and

implementing Nagios Commands.

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* Introduction to Continuous Monitoring
* Introduction to Nagios
* Installing Nagios
* Nagios Plugins(NRPE) and Objects
* Nagios Commands and Notification

**Hands On: (Google Cloud Platform)**

* Installing Nagios
* Monitoring of different servers using Nagios
* Project (Day 11 and 12)