

Day - 1

- **Required components of Running Software Environment**

- Introduction of Hardware
- Introduction of KERNAL
- Namespaces
- Cgroups
- Capabilities
- Filesystem
- Filesystem
- Boot Filesystem
- Root Filesystem
- User Filesystem
- App Filesystem

- **Installing and Configuring Docker**

- Installing Docker in Centos 7
- Installing Docker in Ubuntu 20
- Installing Docker in Windows 2019
- Configuring Docker

- **What is Docker?**

- Introduction of Docker
- Introduction of Container?
- Components of Containers & How Containers works?
- History & Origin of Docker
- Types of Release in Docker
- Latest version of Docker
- Technology used in Docker development
- Official Website & Reference
- Major Use Cases of Docker
- Major Feature and Advantage of Docker
- Terminology used in Docker
- Components of Docker
- Docker Engine
- Docker Registry
- Docker Image
- Docker Container
- Architecture of Docker & How Docker works?
- Workflow of Docker
- Best Alternative of Docker

- **Basic Workflow of Container using Docker**

- Commonly used commands in Docker
- Create a Docker Container
- Start a Docker Container
- Stop a Docker Container
- Restart a Docker Container
- Pause a Docker Container
- Unpause a Docker Container
- Remove a Docker Container
- Kill a Docker Container
- Difference between Docker Stop & Docker Start
- Difference between Docker Pause & Docker Unpause
- Difference between Docker Stop & Docker Kill

- **Differences & Comparison of Docker Container with**

- Docker Container vs Virtual Machines
- Docker Container vs Kubernetes pod
- Docker Container vs Podman Container
- dockerd vs containerd
- dockerd vs CRI-O
- CRI-O vs runc

Day - 2

- **Understanding the Need of Kubernetes**
- **Understanding Kubernetes Architecture**
- **Understanding Kubernetes Masters and its Component**
- **Understanding Kubernetes Nodes and its Component**
- **Understand Kubernetes Concepts**
- **Understand Kubernetes Terminology**
- **Kubernetes Clusters Requirements**
- **Understanding Kubernetes Clusters using kubeadm**
- **Demo: Installing and Configuring Kubernetes Master**
- **Demo: Installing and Configuring Kubernetes Workers**
- **Demo: Install and Configure Workstation using Kubectl**
- **Understanding a concept of Namespace**
- **Demo: Define your first Kubernetes pod**
- **Demo: Working and Deep Dive with Kubernetes pod**

Day - 3

- **Introduction To Selenium**
 - What is Selenium?
 - What are the components of Selenium?
 - Understanding Why selenium is better than other tools?
 - Advantages and disadvantage of Selenium
- **Selenium Hands-On:**
 - What are the basic commands in Selenium?
 - Commands to open and close a browser
 - Get Commands
 - Navigation Commands
 - Switch Commands
 - Interacting with WebElement
- **What are Web Elements and How to Locate Web Elements?**
 - Understanding What are Web Elements?
 - Understanding Types & Techniques of Locators to locate WebElements?
 - How to customize Xpath to Locate various WebElements?
 - Hands – on example with “NewTours” Web Application to experience Selenium Automation Execution.

- **What Is Performance Testing?**

- Introduction
- The Demo Application
- What Is Performance Testing?
- What Can JMeter Do?5m
- Types of Performance Tests

- **Introducing JMeter**

- Introduction
- How JMeter Works?
- Installation Requirements
- Installation and Directory Structure
- Running JMeter
- Configuring Plugins

- **Configuring a Test Plan**

- Structure of a Test
- Test Plan
- Thread Groups
- Configuration Elements
- Controllers and Samplers
- Timers
- Assertions
- Listeners
- Execution Order and Rules
- Running the Test

- **Recording a Test**

- Introduction
- Configuring the Browser
- Firefox Proxy Setting for Localhost
- Configuring the Test Script Recorder
- Recording a Test Script
- Organizing the Recorded Script
- Recording an HTTPS Website

- **Assertions in Jmeter**

- How to validate Jmeter tests- Pass/Fail status
- Different types of Assertions which can you use on Jmeter tests

- **Lets understand Continuous Integration**

- What is Continuous Integration
- Benefits of Continuous Integration
- What is Continuous Delivery
- What is Continuous Deployment
- Continuous Integration Tools
- Jenkins Vs TeamCity Vs Bamboo

- **What is Jenkins**

- Object Properties and Method
- Accessing and Displaying the Object
- Primitive and Reference Type and Primitive Wrapper Type
- Class ,Constructor and new Operator
- Inheritance
- Getter and Setter Method
- Static Class

- **Jenkins Installation**

- Prerequisites
- Installing Jenkins using Yum
- Installing Jenkins using Apt
- Installing Jenkins using MSI
- Installing Jenkins using Tomcat
- Installing as a Service
- Starting and Stopping Jenkins

- **Jenkins Dashboard Tour**

- Understand Freestyle Project
- Freestyle General Tab
- Freestyle Source Code Management Tab
- Freestyle Build Triggers Tab
- Freestyle Build Environment
- Freestyle Build
- Freestyle Post-build Actions
- Manage Jenkins
- My Views
- Credentials
- People
- Build History