

Basic DevOps – Linux, GitHub, Jira, Containerization and Jenkins

Duration: 3 Days (8 hours/day)

Objective: The course aims to equip participants with foundational skills in Linux administration, Git & GitHub, JIRA, Docker, Kubernetes, and Jenkins for effective system management, version control, agile project coordination, and automated deployments. By the end of the course, participants will be proficient in these essential tools and technologies.

Linux Administration Basics

- Introduction to Linux
- Understanding FSH in RHEL
- Exploring Gnome GUI
- Understanding Basic Linux Commands
- Lab:** Basic command execution on Linux
- Basics of Vim editor in RHEL
- Lab:** Using Vim to create files in RHEL
- Basics User Management in RHEL
- Installation of Packages in RHEL
- Managing Services in RHEL
- Lab:** Installing Packages & Starting Services
- Introduction to Bash Scripting

Git & GitHub

- Introduction to Git
- Installing Git
- Basic Working of Git
- Understanding – Git init, Git add, Git Commit
- Using Git Log
- Understanding Remote Repository GitHub
- Git Pull and Git Push
- Git Branches
- Merging Branches
- Understanding Pull-Request in GitHub
- Lab:** Implementing Git & GitHub for Collaboration

JIRA - Basics

- Understanding Basics of Agile
- Introduction to JIRA user interface and navigation
- Understanding Types of Projects in Jira Cloud
- Difference Between Team Managed & Company Managed Projects
- Introduction to Projects Tab
- Introduction to Issues Tab
- Lab:** Navigating & Using Projects and Issues Tab
- Understanding Issues and Types of issues
- Lab:** Viewing, Editing & Understanding Issues

Understanding Agile Boards

Lab: Agile Board – Backlog View

Lab: Agile Boards – Kanban

Lab: Methods of Creating Issues

Lab: Searching for Issues

Understanding Filters in JIRA

Docker & Kubernetes – Basics

Understanding Containers

Understanding Basics of Docker

Basic Docker Commands – docker run & docker pull

Basics of Dockerfile

Lab: Creating Dockerfile and running container with Docker

Introduction to K8s

Lab: Installing K8s Cluster on local Vms

Understanding Kubectl & Kubeconfig

Understanding Pods

Lab: Creating Pods in K8s

Understanding Deployment in K8s

Lab: Deploying app as Deployments

Understanding Labels & Selectors

Understanding Service

Lab: Creating Services to access the applications in K8s

Jenkins - CI/CD with Docker & Kubernetes

Understanding Basics of Jenkins

Lab: Installing Jenkins

Lab: Creating a Basic Job in Jenkins GUI

Lab: Deploying Basic Jenkins Pipeline with multiple stages

Lab: Deploying App with multiple Stages with Docker & Kubernetes