

# DevOps Course Outline

## □ Linux Training : [10 Days]

- What Is Linux?
  - Invention
  - Types Of linux
  - Why We use This
  
- Basic Linux Command
  - Using Command for making files and directories
  - For permissions
  - System Oriented Commands
  
- User authentications
  - Describing User and Group Concepts
  - Gaining super user access
  - Managing local user accounts
  - Managing user passwords
  
- Archive in Linux
  - Managing Compressed tar archives
  - Transferring files between system securely

- Synchronizing files between system securely
  
- Shells in Linux
  - Types of shell
  - Bash shell
  - Csh shell
  - Sh shell
  
- Software management
  - Yum
  - Apt - aptitude
  
- Permissions
  - Interpreting Linux file system permission
  - Managing file system permission using command line
  - Managing default permissions and file access
  
- Partitions
  - What is Storage?
  - Type Of storage
  - Types of Partitions
  - Accessing partitions using command line
  - LVM

- Access Control List
  - Managing advance permission for files
  - Setfacl
  
- Servers
  - Apache web server
  - DNS
  - DHCP
  - FTP
  - NFS
  - SAMBA
  - ISCSI
  - SSH
  
- Managing Linux Processes
  - Listing Processes
  - Killing process
  - Monitoring process activity
  
- Analyzing and storing Logs
  - Storing Linux logs
  - Rsyslog

- Networking
  - Static IP
  - Dynamic IP
  
- Selinux in Red Hat
  - What is selinux?
  - Why is it necessary?
  
- Funny commands and useful commands
  
- Network Security
  - Firewall
  - Port Access

## □ Docker Training : [5 Days]

- what is docker?
- why this came into picture
- advantage and disadvantages
- how to use this ?
- website in docker
- basic stuff of docker
- docker images

- docker containers
- Docker file
- Docker managing ports
- Docker containers linking
- Docker Storage
- Docker Swarm
- Docker – working with Kubernetes

## Ansible : [12 Days]

- Introducing Ansible
- Overview of Ansible Architecture
- Overview of Ansible Deployments
- Describing Ansible
- Inventory Deploying Ansible
- Installing Ansible
- Managing Ansible Configuration Files
- Running Ad Hoc Commands
- Managing Dynamic Inventory
- Writing YAML Files
- Implementing Modules
- Implementing Ansible Playbooks
- Managing Variables and Inclusions

- Managing Variables
- Managing Facts
- Managing Inclusions
- Constructing Flow Control
- Implementing Handlers
- Automation with Ansible
- Implementing Tags
- Handling Errors
- Describing Jinja2 Templates
- Implementing Jinja2 Templates
- Implementing Roles
- Describing Role
- Structure Creating Roles
- Deploying Roles with Ansible Galaxy
- Optimizing Ansible
- Configuring Connection Types
- Configuring Delegation
- Configuring Parallelism
- Implementing Ansible Vault
- Configuring Ansible Vault
- Executing with Ansible Vault
- Troubleshooting Ansible
- Troubleshooting Ansible Managed

- Hosts implementing Ansible Tower
- Describing Ansible Tower
- Deploying Ansible Tower
- Managing Jobs in Ansible Tower

## □ OpenShift: [5 Days ]

- Introduction to openShift
- Architectural overview
- Install OpenShift container Platform
- Explore OpenShift networking concepts
- Execute Commands
- Manage OpenShifts Resources
- Allocate persistent storage
- Manage application deployments
- Metrics subsystem
- Manage and monitor

## □ Kubernetes: [7 Days]

- Introduction to Container Orchestration

- Kubernetes
- Kubernetes Architecture -  
Overview
- Installing Kubernetes
- Setting Up a Single Node Kubernetes Cluster  
Using Minikube
- Accessing Minikube
- Basic Kubectl
- Kubernetes Building Blocks
- Services
- Deploying a Stand-Alone Application
- Kubernetes Volume Management
- ConfigMaps and Secrets
- Ingress
- Advanced Topics - Overview
- Kubernetes Community

## GIT: [2 Days]

- Course Introduction and features
- Git Introduction and Architecture
- Git installation and Configuration
- Working with repositories in git
- Managing What is tracked with gitignore
- Cloning Repositories
- Understanding Git logging
- Working in branches in Git



- Merging and pushing changes in Git

## AWS: [ 2 Days]

- Database services
- Object Storage
- Autoscaling and load balancing
- Virtual Private Cloud
- Application services, AWS Lambda and CLI
- IAM and monitoring
- Configuration management and automation

## JENKINS: [2 days]

- Introduction to Jenkins
- Various types of plugins
- Creating build jobs
- Automated test implementation
- Improving test quality
- Distributed Jenkins configuration
- Maintaining and deploying Jenkins
- Automated Deployment
- Jenkins Pipeline