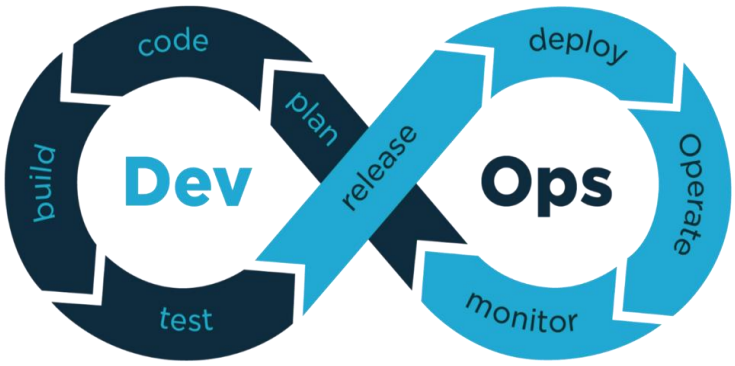
IntelliQ



DevOps With AWS Course Content

Date: .....Timings:.....

Duration:.....Fee: .....

Faculty:.....

Configuration Management Tools

- **Ansible**

Virtualization platforms

- **Vagrant**
- **Docker**
- **Kubernetes**
- **Swarm**

Build Tools

- **ANT**
- **Maven**

Version Controlling

- **GIT**

Continuous Integration

- **Jenkins**
- **Bamboo**

Monitoring

- **Nagios**

Cloud

- **AWS**

Scripting Language

- **Python**

- **Introduction of Devops**
    - Devops for entire Business
    - Devops for entire IT
    - Devops for Developer
    - Devops for Testing
    - Devops for Operations Team
    - Role of Devops in Agile Scrum

Ansible

- **Ansible Introduction & Setup**
    - Configuration Management & Orchestration
    - Set up of Ansible
    - Set up of controller and managed nodes

- **Foundation**
    - Inventory
    - Dynamic Inventory
    - Host Selection
    - Tasks
    - Plays
    - Playbook Execution
    - Ansible.cfg

- **Modules and Ad hoc Commands**
    - Firewalld
    - Uri
    - Get_URL
    - APT/YUM
    - Service
    - User
    - Command
    - Shell
    - Copy
    - Fetch
    - Archive / Unarchive
    - File
    - Setup
    - Debug
    - include
    - Stat
    - Git
    - Docker_contianer
    - Docker_image
    - Docker_login
    - Etc.

- **YML Scripting**
  - Basics of YML
  - How to write & test YML Scripts
  - YML scripting for writing Play Book.

- **PlayBook for CM automation**
  - Writing play books
  - Execution of playbooks
  - Playbooks for configuring NFS,tomcat,Apache2,FTP etc.
  - System facts and Custom facts
  - Play book Notification
  - Play book tags & handlers
  - Exception handling

- **Roles**
  - Roles Overview
  - Converting to Roles:
  - Using roles for implementing tomcat, apache etc.
  - External Roles & Galaxy

- **Advanced Execution**
  - when conditions
  - Loops (with_items,with_sequence)
  - Removing Unnecessary Steps
  - Extracting Repetitive Tasks
  - Limiting Execution by Hosts

Docker

- **Docker Introduction**
  - Installing Docker
  - Docker Introduction
  - Virtualization and Containerization
  - Code or Text Editor for Docker and Compose files
  - Terminal Emulator and Shell for Docker

- **Creating and Using Containers**
  - Starting application server, databases and operating systems as containers
  - What Happens When We Run a Container
  - Container VS. VM
  - Manage Multiple Containers
  - CLI Process Monitoring
  - Linking of containers
  - Docker Volumes
  - Reusable volumes
  - Getting a Shell Inside Containers: No Need for SSH
  - Package Management Basics: apt, yum, dnf, pkg
  - Docker Networks: Concepts for Private and Public

- Docker's --format option for filtering cli output

- **Container Images**
  - What's In An Image
  - Official Docker Image Specification
  - The Mighty Hub: Using Docker Hub Registry Images
  - List of Official Docker Images
  - Images and Their Layers: Discover the Image Cache
  - Images and Containers From Docker Docs
  - Image Tagging and Pushing to Docker Hub
  - Building Images: The Dockerfile and docker commit
  - Building Images: Running Docker Builds
  - Building Images: Extending Official Images

- **Docker Compose: The Multi-Container Tool**
  - Docker Compose and The docker-compose.yml File
  - The YAML Format: Sample Generic YAML File
  - Compose File Version Differences (Docker Docs)
  - Compose file for creating Development and QA environment
  - Setting CI-CD environment for Jenkins uisng Docker

- **Docker Swarm:**
  - Container Orchestration
  - Load balancing using swarm
  - Scalling using swarm
  - Handling fail over scenarios using swarm
  - Rolling updates using swarm.
  - Handling failover scenarios using swarm
  - Docker stack

Kubernetes

- **Kubernetes Overview:**
  - Introduction
  - Containers Overview
  - Demo – Docker
  - Container Orchestration
  - Kubernetes Architecture

- **Setup Kubernetes**
  - Kubernetes Setup – Kubeadm
  - play-with-k8s.com

- **Kubernetes Concepts**
  - PODs
  - ReplicaSet
  - Replication Controllers

- **Kubernetes Concepts-PODs, ReplicaSets, Deployments**
  - Introduction to YAML
  - PODs with YAML
  - Replication Controllers and ReplicaSets using yaml
  - Container Orchestration in Kubernetes
  - Load Balancing using Kubernetes
  - High availability using Kubernetes
  - Scalling in Kubernetes
  - Performing Rolling updates and roll back
  - Handling Fail over scenarios
  - Deployments
  - Deployments – Update and Rollback

- **Networking in Kubernetes**
  - Basics of Networking in Kubernetes
  - Demo – Networking in Kubernetes

- **Services**
  - Service – NodePort
  - Demo – Services
  - Services – ClusterIP

- **Microservices Architecture**
  - Microservices Application
  - Deploying Microservices Application Kubernetes Cluster

Vagrant

- **Introduction to Vagrant**
  - Introduction & Installing vagrant
  - The Vagrant file & Boxes
  - Communicating with Vagrant Box
  - Network Access

- **Deploying your Vagrant Machine**
  - Deploying a Complete Environment
  - Setting Environment
  - Finalizing the Environment
  - Vagrantfile

Jenkins

- **Getting started with Jenkins**
  - Getting started with Jenkins
  - Introduction to Continuous Integration
  - Install Jenkins on windows and Linux
  - Setup of Dev environment,QA environment ,Prod Environment for Jenkins

- Jenkins' Architecture and Terms of Jenkins
- Jenkins UI : Dashboard and Menus
- Create Our First Jenkins Job

- **Understanding stages of CI;-CD**
  - Continuous download
  - Continuous build
  - Continuous deployment
  - Continuous testing
  - Continuous delivery

- **Continuous Integration with Jenkins**
  - Continuous Integration with Jenkins
  - Install Git and Jenkins GitHub Plug-in
  - Install Maven on Our Local Box
  - Configure Jenkins to Work with Java, Git and Maven
  - Create our Jenkins Project
  - Trouble Shooting: Create our First Jenkins Project
  - Run our First Jenkins Build and Jenkins Workspace
  - Source Control Polling in Jenkins
  - Other Build Triggers of Jenkins
  - Jenkins' Shell Scripts
  - Archive Build Artifacts
  - Install and Configure Tomcat as the Staging Environment
  - Deploy to Staging Environment
  - Jenkins Build Pipeline
  - Parallel Jenkins Build
  - Deploy to Production
  - Trouble Shooting: Deploy to Production

- **Distributed Builds**
  - Introduction to Distributed Jenkins Build
  - Creating master slave setup
  - Install Jenkins Master Node in the Cloud
  - Install Jenkins Slave Agents in the Cloud
  - Concurrent Jenkins Build and Label Jenkins Build
  - Continuous Delivery with Jenkins
  - Code as Pipeline
  - CI-CD using Jenkins file
  - Groovy Scripting
- **Pipeline**
  - Scripted Pipeline
  - Declarative Pipeline
  - MultiBranch Pipeline

Bamboo

- Setup of Bamboo
- Continuous Integration using Bamboo

Git

- Installation
- Version Controlling
- Centralised and Distributed Version Controlling
- Git local repo and GIT Hub
- Configuration
- Basic Commands
- Branches
- push and pull from GIT Hub
- Git squash and stash
- Gitignore
- Git Tags
- Git rebase
- Git amend and revert
- Git log and gitreflog
- Git merging and rebasing
- Cherrypicking

Maven

- Introduction
- Understanding build process
- Creating Maven from command prompt
- Maven Dependencies
- Maven Stages
- Maven Repositories
- Maven Plugins
- Integrating maven with Jenkins

ANT

- Introduction
- Configuring ANT
- Using Build.xml
- ANT Build stages
- Run the code through Build.xml
- Integrating ANT with Jenkins

Nagios

- Installation of Nagios
- Configuring Nagios
- Monitoring with Nagios
- Triggering Alerts

AWS

- Environment setup in AWS
- Cloud Deployment Scenarios in AWS
- Continuous Delivery in AWS
- Using Vagrant in AWS
- Using Docker containers in AWS
- Amazon Elastic Compute Cloud (EC2)
- Amazon Simple Storage Service (S3)
- AutoScalling
- VPC

Linux (Basics)

- Basic Commands
- File Operations
- Redirection
- Piping
- Permissions
- User Controls

Python

- Basic Scripting
- Understanding methods, classes and objects
- Creating customized modules
- Using Python to Automate docker
- Using Python scripts to automate Jenkins

Address: 502,MANJEERA SQUARE BUILDING, PRIME HOSPITAL LANE ,ABOVE UDAPI PARK HOTEL,AMEERPET, HYDERABAD. Ph:07995857022