

Dev Ops

**Course
By
Experts**

About QuickXpert Infotech

QuickXpert Infotech provides professional training on some of the most updated, industry-designed certification & job-oriented training programs to both students & corporate from experts in classroom & online training format. Our wide range of courses blended by our placement process have helped students from both IT & non-IT fields to make career in IT Industry!

➤ **IT Courses - 1000+ Companies - 1000s Trained – Since 2014!**

Courses Offered – JAVA, Dot Net, Software Testing, Web Development, Oracle Developer & DBA, MySQL, SQL Server, Digital Marketing, Python, Data Science & A.I., Data Analytics, Tableau, Power BI, R Programming, Hadoop, Android, Flutter, Salesforce, ServiceNow etc. please visit website for details.

Our Live Projects – Marriageonix.com, BiodataKing, CRM Support etc.

About The Course

What is Dev Ops? Normally big companies work on big projects. There are many teams who work in parallel on sub modules of same project and they communicate with each other using web services. Hence there are 1000s of micro services built for a single large project and hence such projects are deployed on cloud platforms like Google cloud, Azure or Amazon cloud services. Here Dev Ops come in picture. Dev ops full form is Development Operations. It provides tools to deploy projects on cloud and monitor them. As part of these training you are going to learn cloud basics and dev ops tools in deep.

Who Can Learn?

Fresher / Experienced candidates from Any Background looking to Make their Career in Lucrative Cloud Computing Industry as No programming involved. No pre-requisites. We will teach you from Scratch.

Duration

2.5 months (around 55 hours)

Tools Covered

- ❖ **Dev Ops Core**
- ❖ **AWS Cloud**
- ❖ **Unix / Linux**
- ❖ **Git**
- ❖ **Docker**
- ❖ **Ansible**
- ❖ **Maven**
- ❖ **Terraform**
- ❖ **Cloud Watch**
- ❖ **Jenkins**
- ❖ **Kubernetes**
- ❖ **Tomcat Server**
- ❖ **Apache Web Server**
- ❖ **Projects**

Syllabus

❖ Dev Ops

- Definition of SDLC
- Purpose of SDLC
- General Phases of SDLC
- Various Models of SDLC
- About Waterfall SDLC Model
- Waterfall SDLC Model - Advantages
- Waterfall SDLC Model - Disadvantages
- About Agile SDLC Model
- Agile SDLC Model - Advantages
- Introduction to DevOps
- History of DevOps
- What is DevOps
- Definition of DevOps
- Fundamental Principles of DevOps
- Benefits of DevOps
- After Implementation
- DevOps Roles and Responsibilities
- Continuous Integration in DevOps

❖ AWS Cloud

- Continuous Integration in DevOp
- Brief History of AWS
- AWS Features
- How to Create Account in AWS
- Introduction to EC2
- Features of EC2

- EC2 Dashboard Overview
- About Amazon Machine Images (AMI)
- Different types of AMI's
- How to create AWS AMI
- How to create a Key Pairs
- What is EBS Volumes
- Download a key pairs
- How to connect EC2 instances
- What is pem file
- What is ppk file
- What are default usernames to connect AMI's
- How to Login into LINUX AMI
- How to reboot the Instance
- How to stop instance
- How to terminate instance

❖ **Unix / Linux**

- Introduction to Unix/Linux
- Unix flavors
- Linux Flavors
- Why Linux?
- Advantages of Unix/Linux
- Architecture of Linux
- File system hierarchy
- cat (create & append file)
- touch (create blank file)
- nano (create & edit file)
- vi/vim (create & edit file)
- ls (list) (-a, -la)
- cd (change directory)

- pwd (print working directory)
- mkdir (create directory, multiple)
- cp (copy)
- mv (move)
- mv (rename)
- rm (remove file)
- tree (see in tree structure)
- rm -rf(remove directory & recursive)
- grep (pick & print)
- less (see output)
- head (see top 10 lines)
- tail (see last 10 lines)
- sort(display in Alphabetic/Numeric order)
- User creation
- Group creation
- Soft Link (shortcut)
- Hard Link (backup)
- tar (to pack)
- gz (to compress)
- yum (to install)
- wget (to download)
- File/Directory Permissions:
- chmod (permissions)
- chown (owner)
- chgrp (group)
- hostname (to see hostname)
- ifconfig (to get ip address)
- cat /etc/*rele* (to get os version)
- yum commands
- rpm commands
- service commands
- chkconfig commands
- Redirection (redirecting output)

- which (to see package installed or not)
- sudo (to get root privileges)
- whoami (to see user)
- find commands

❖ Git

- Source code management
- Version /Revision control system
- SCM tools
- Repository/Depot
- Server
- Work space/Work dir/Work tree
- Branch/Trunk/Code line
- Commit/Check-in
- Version/Version-ID/Commit-ID
- Tag
- Advantages of Git
- Git Snapshots
- Work space
- Staging area
- Buffer area
- Repository (Local/non-bare)
- Repository (Central/bare)
- Installation & configuration
- Git add
- Git commit
- Git log
- Git push
- Git status
- Git ignore
- Git branch

- Git checkout
- git merge
- Git Snapshots
- Git conflict
- Git stash
- Git reset
- Git revert
- Repository (Central/bare)
- Git remove
- Git clean
- Git tag
- Git fetch
- Git diff
- Git cherry-pick
- Git hub
- Role of Git in Real Time
- Git installation on Windows and Screen shots
- Git installation on Linux
- Git Architecture
- What is Git Repository
- Git with Local Repositories
- Git with Remote Repositories
- git config command usage
- Setup git repository using git init
- Git Making Changes
- gitstatus color coding system
- Exercises on adding single files, multiple files commits
- Committing Changes in one go
- Git History - log and show
- View all commit logs
- View only latest commit logs
- gitshow command
- Comparing git project files from working area with Local Repo

using git diff

- Git diff –staged
- Git remote commands
- Introduction to Github
- Various vendors of Remote Repository
- Features of github
- Create Account in github
- Create Project Repository in github
- Public Repository
- Private Repository
- Create files in github
- Clone Github Repository
- Pull changes from github Repository
- Push changes to github Repository

❖ Docker

- What is Container
- Docker features
- Docker history
- Docker usage
- Docker Architecture
- Docker Editions
- Docker system Requirements
- Docker installation and setup
- How to verify docker installation
- About Docker version
- OS-Level-Virtualization
- Layered file system
- VM Ware vs Docker
- Docker components
- Docker workflow
- Docker benefits

- Docker images
- Docker Container
- Docker file
- Docker hub/registry
- Docker daemon
- Docker Install & Configure
- Docker all commands
- Docker Volumes
- Volume (container-container)
- Volume (Host- Container)
- Port mapping
- Registry server
- Pull/push images from /to registry
- CMD
- RUN
- ENTRYPOINT
- Introduction to Docker
- Why docker
- Relation between container and docker
- Why docker is so popular
- Difference between container and image
- Containers History
- How to see list images in docker
- What is Docker Registry
- How to see all docker images
- How to pull images from docker registries
- What is pulling in docker?
- Difference between Docker Pull, run, Push
- How to run docker image
- How to exit from container without killing it
- How to exit from container by killing it
- How to see all running container on docker host
- How to check the history of all containers

- How to stop a container that is running
- How to find latest containers that are created
- How to get inside of already a running container
- How to start a container and remove it once task is completed
- How to delete or remove a container
- How to delete or remove image from docker host
- How to attach a port of docker host to docker container
- How to run a container in background
- Difference between docker container run and docker container start
- How to specify a name to docker container
- How to see container logs
- How to see all commands related to a container
- How to remove docker multiple containers
- How to check docker container metadata using docker inspect
- How to list what ports are being used by docker container
- How to tag docker images
- How to log into docker registries using docker CLI
- How to logout from docker registries using docker CLI
- How to push docker image to docker registries
- About Dockerfile
- How to create Dockerfile to build an image
- How to build an image from Dockerfile
- About Dockerfile Instructions

❖ Ansible

- Configuration Management tool
- Introduction To Ansible
- History
- Advantages of CM tool
- Why Ansible
- Ansible Advantages
- Ansible Architecture setup
- Install & configure Ansible
- Features Of Ansible
- Use Cases Of Ansible
- What Can Do In Production Environment
- Ansible Documentation
- How Ansible Is Different From Configuration Management Tools
- Ansible Architecture
- Ansible Control Machine Requirements
- Ansible Installation Process
- Ansible Terminologies
- How Ansible Works
- Ansible Lab-setup
- Ansible Inventory
- Test Environment setup
- Host Patterns
- Ad-Hoc commands
- Modules
- Gathering facts
- Playbooks
- YAML Language
- Target section
- Variable section
- Task section

- Handle section
- Dry run
- Loops
- Conditionals
- Vault
- Representation Of Dictionary In Yaml
- Representation Of List In Yaml
- Group Inventory File
- Ansible Inventory Parameters
- Ansible Exercise - To Setup Inventory File And Perform Ping Test
- Ansible Playbooks and Modules
- Ansible Playbooks
- Sample Ansible Playbook
- Ansible Playbook Format
- Ansible Modules
- Ansible Tasks
- How To Run A Playbooks
- How to check the syntax of a Playbook
- How to Run a playbook on multiple hosts
- How to Run a playbook on target hosts
- Ansible Run Command Methods
- Install Tomcat
- Install Jenkins
- Ansible Roles

❖ Maven

- What is Build
- Purpose of Build Tools
- Build Tools Ideology
- Evolution of Build Tools
- Few Notable Build Tools
- Java Based Build Tools
- Build management
- Advantages of Build tool
- Architecture of Maven
- Maven build life-cycle
- Maven directory structure
- Maven repositories
- Pom.xml
- Multi module project(over view)

❖ Terraform

- What is terraform
- What are the advantages of terraform
- Why we have to use terraform
- What is IAC?
- what are the advantages of IAC?
- list of cloud providers
- what are the cloud providers support terraform
- how to download terraform software
- Terraform installation on windows & Linux Servers
- how to set terraform path temporarily and permanently
- What is IAM in AWS?
- How to create IAM user?
- how to launch windows instance

- how to launch linux instance
- creation of S3 bucket 2. Purpose of Build

❖ Cloud Watch

- What is Cloud Watch
- Why to monitor
- What is default monitoring
- What is detailed monitoring
- Time interval
- Why only cloud watch
- How to see metrics
- Creating Alarms
- Creating Graphs
- Line
- Stacked
- Number
- Text
- Create Billing Alarm
- Deleting Billing Alarm

❖ Jenkins

- Introduction to Jenkins
- Why Jenkins
- Relation between Jenkins and Hudson
- History of Jenkins
- Why Jenkins is so popular
- Features of Jenkins
- Jenkins Architecture
- Jenkins Prerequisites
- Continues Integration(CI)
- Jenkins workflow
- Ways of CI
- Benefits of CI
- Why only Jenkins
- Git for Windows
- Java installation & configuration
- Maven installation & Configuration
- Jenkins installation & configuration
- Free style project
- Maven project by maven
- Maven project by Jenkins
- Jenkins Plugins
- Scheduled Projects
- Source code polling (Git)
- Related/Linked projects
- Upstream & Downstream projects
- CI-CD pipeline
- Jenkins Views
- User management
- Jenkins Slaves
- Tomcat web server

- Minimum Hardware Requirements
- Recommended Hardware Requirements
- Setup Environment Variables
- Jenkins Terminologies
- Master
- Slave or Node
- Job or Project
- Executor
- Build
- Plugin
- Jenkins Dashboard Overview
- Job Listing Section
- Setup Jenkins Server
- Jenkins Menu Section
- Jenkins Menu- Item
- Jenkins Menu-People
- Jenkins Menu-Build History
- Jenkins Menu-Manage Jenkins
- Jenkins Menu-views
- Build Queue Section
- Build Executor status Section
- Jenkins - Creating Jobsin Jenkins
- Naming a Project
- About Project Descriptions
- How to disable the build systems
- Source Code Management
- Build Triggers
- Create a Sample Project
- Understand Jenkins Job Process
- How to check Build Information
- Jenkins Build Color Code system
- Configure Jenkins Build Server
- Configure Java JDK for Jenkins Build Server

- Configure Apache Maven for Jenkins Build Server
- Configure the JAVA JDK for Build jobs in Jenkins
- Configure the Maven for Build Jobs in Jenkins
- Configure Github for Build Jobs in Jenkins
- Configure SCM-Git Plugin for Build Jobs in Jenkins
- Secure Jenkins
- Manage Jenkins Plugins
- Install Plugins
- Upgrade Plugins
- Backup plugins
- Jenkins User administration
- Create Jenkins User Accounts
- Delete Jenkins User Accounts
- How to change the Jenkins Admin Password
- Change Home Directory
- Configure - Executors, Labels, SCM Checkout Retry Count
- Build Triggers
- Configure Poll Source Code management in Jenkins
- Configure Poll SCM Changes using Crontab in Jenkins
- Trigger Builds Remotely using URL
- Trigger Builds based on build Pipeline or other Projects
- Build triggers Periodically
- Build triggers when changes pushed to Github or SCM
- Architecture of Distributed Build
- Configure Jenkins Master Server
- Configure Jenkins Slave Server
- Configure authentication between MasterSlave
- Setup Relationship between Master and Slave
- Configure Project to build on Jenkins slave server
- Email Notifications in Jenkins
- Purpose of Email Notification
- Email Notification plugins
- CI-CD Pipeline Project

❖ **Kubernetes**

- What is kubernetes
- Features of kubernetes
- Architecture of kubernetes
- Kubernetes Master
- Kubernetes nodes
- Kubernetes components
- Kube-apiserver
- etcd (cluster store)
- Kube-scheduler
- Node
- Kube-proxy
- Kubelet
- pods
- Multi container pod
- Pod limitations
- Replica sets
- Deployments
- Installation of Kubernetes

❖ **Tomcat Server**

- Installation
- Configuration
- Tomcat manager
- Application management
- App deployment methods

❖ Apache Web Server

- Installation
- Types of web packages
- Configuration
- Directory Structure
- Index file
- Starting service
- Enabling Service

❖ Projects

- DevOps Real time project - 1
- DevOps Real time project - 2
- CI-CD Pipeline projects
- Interview questions (Technical, Manager & HR)
- Resume preparation & Evaluation
- Real time Scenarios
- Day-to Day activities
- Provide Material

Our Benefits

- ❖ **Training from Experts**
- ❖ **Installments Available**
- ❖ **Job Oriented Course**
- ❖ **80% Practical's** - Learn from Scratch
- ❖ **Professional Notes & Study Material Provided**
- ❖ **Certification Course**
 - You will get Course Completion ISO Certificate from our Institute
- ❖ **Live Projects / Case Studies Covered**
- ❖ **Dedicated Placement Team**
- ❖ **Placements**
 - Dedicated HR Team for Placements, Overall 1000+ Companies for Placements, Check Recent Placed Students on Site / FB / Google Page
- ❖ **Personal Mentorship**
 - Limited Seats per batch for Personal Mentorship
- ❖ **Friendly Environment with Professional Grooming**
- ❖ **Interview Preparation & Mock Interviews**
- ❖ **Resume Building etc.**

Please visit site for more info or reach us

Our 5 Steps Process for Success



Contact Us

Contact Info: +91-7506252588, +91-8452842233

Website: www.quickxpertinfotech.com

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