# DevOps Practitioner Training

**#WorkBeforeGetJob**

# DevOps Project with Real Time Scenarios & Weekly Assignments

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# LINUX:

1. Linux Basics
2. Linux File System
3. Linux File & Directory Management
4. Linux Permissions
5. Linux Package Management

Regarding LINUX, I need to be perfect at the below COURSES. Specially

|  |  |
| --- | --- |
| COURSES | AUTHOR |
| DPT Linux Videos 8 & 9 | DPT |
| LINUX FOR DEVOPS ENGINEERS | AR SHANKAR |
| PERFECT 3 DAY LINUX COURSE | IMRAN AFZAL |
| COMPLETE BASH SHELL SCRIPTING | P NARENDRA |
| LINUX SHELL SCRIPTING - BOOK | PACKTPUB |

# AWS :

## Cloud Computing Basics – Introducing IaaS, PaaS & SaaS Service Models

* 1. Cloud Computing Introduction
  2. Cloud Service Models
  3. Cloud Deployment Models

## AWS Global Infrastructure

* 1. Regions
  2. Availability Zones

## EC2 - Virtual Servers in AWS Cloud

* 1. What is Amazon EC2?
  2. How to Create EC2 Instance
  3. EC2 Instance States
  4. EC2 Instance Types

=================================================DAY1

* 1. Load Balancing
  2. Auto Scaling
  3. EBS Volumes

## Route53

* 1. Create Hosted Zone
  2. Create Resource Records

## IAM

* 1. IAM Users & Roles
  2. IAM Policies

## RDS

* 1. RDS Creation
  2. RDS Integration with Application

## VPC

* 1. Networking Basics
  2. How to Create and Manage VPC
  3. VPC Peering & Subnetting

1. Q&A - Discussion on Interview Questions.

# Terraform:

## Packer

* 1. Packer Introduction
  2. Automate AMI creation using Packer

## Terraform

* 1. What is Terraform?
  2. Terraform Providers
  3. Terraform Resources
  4. Terraform Modules
  5. Writing IaC - Terraform Modules for AWS Infrastructure Automation.
  6. Plan, Deploy, Destroy AWS Resources using Terraform
  7. Q&A - Discussion on Interview Questions.

# DevOps:

## Apache HTTP web server

* 1. What is Apache HTTP?
  2. Apache HTTP Architecture
  3. Apache HTTP Installation and Configuration
  4. Apache HTTP Setup on Linux Instances
  5. Apache HTTP configuration and Host website
  6. Apache HTTP security Best Practices

## Apache Maven

* 1. Why Apache Maven?
  2. Apache Maven Architecture
  3. Apache Maven Goals
  4. Apache Maven configuration
  5. Maven Lifecycle
  6. Maven Commands
  7. How to Build Java Source Code
  8. Integrate Maven with Sonar
  9. Integrate Maven with Jfrog
  10. Integrate Maven with Jenkins
  11. Q&A - Discussion on Interview Questions.

## Apache Tomcat App Server

* 1. What is Apache Tomcat?
  2. Tomcat Architecture
  3. Tomcat Installation and Configuration
  4. Tomcat Setup on Linux Instances
  5. Tomcat Configuration and Deploy Artifacts
  6. Configure Tomcat Users and Roles
  7. Manage and Troubleshoot Tomcat Server
  8. Q&A - Discussion on Interview Questions.

## Git

* 1. What is the Version Control System?
  2. What is Git?
  3. Git Architecture
  4. Git Installation and Configuration
  5. Git Architecture
  6. Git repository management
  7. Git Commands
  8. Q&A - Discussion on Interview Questions.

## Bitbucket

* 1. What is a Distributed Version Control System?
  2. What is Bitbucket & GitHub
  3. BitBucket Architecture
  4. BitBucket Configuration
  5. How to Manage Pull Requests and Approvals
  6. Integrate BitBucket with Git
  7. Integrate Bitbucket Webhooks with Jenkins
  8. BitBucket Security and User Management
  9. Q&A - Discussion on Interview Questions.

## Nginx

* 1. Nginx Introduction
  2. Nginx Architecture
  3. Nginx Installation and Configuration
  4. Nginx Routing Configuration
  5. Nginx Security
  6. How to configure Nginx as Proxy for Web Applications
  7. Q&A - Discussion on Interview Questions.

## YAML

* 1. What is YAML?
  2. How to write Ansible Playbooks using YAML
  3. YAML syntax and best practices.

## Ansible

* 1. What is Ansible?
  2. Ansible Architecture
  3. Ansible Installation and Configuration
  4. Ansible Inventory
  5. Ansible Playbooks
  6. Ansible Roles
  7. How to write Playbooks to automate software provisioning.
  8. Ansible as Configuration Management Tool
  9. Ansible as Software Automation Tool
  10. Q&A - Discussion on Interview Questions.

## Jfrog Artifactory

* 1. Why Artifactory
  2. Artifactory Architecture
  3. Artifactory Setup for repositories
  4. Integrate Artifactory with Maven
  5. Artifactory repository types
  6. Integrate Artifactory with Jenkins
  7. Artifactory security and repository management
  8. Q&A - Discussion on Interview Questions.

## SonarQube

* 1. What is SonarQube
  2. Sonar Installation and Setup
  3. Sonar Integration with Maven
  4. QualityGate configuration
  5. Code Quality Dashboards
  6. Q&A - Discussion on Interview Questions.

## Docker

* 1. What is Docker?
  2. Container Introduction
  3. Docker Architecture
  4. Container Registry
  5. Virtual VM Vs. Containers
  6. How to Install and Configure Docker on Linux Instances
  7. How to Build custom Docker Images
  8. Dockerfile Introduction and How to write Dockerfile
  9. Docker networking
  10. Docker volumes
  11. Container Management
  12. Container Monitoring
  13. Build-Ship-Run Apps on Docker
  14. Q&A - Discussion on Interview Questions.

## Kubernetes

* 1. Why Kubernetes?
  2. Kubernetes Introduction
  3. Kubernetes Architecture
  4. Microservices Architecture
  5. Monolithic Vs. Microservices
  6. Kubernetes Installation methods
  7. Configure Kubernetes Cluster using kubeadm
  8. Configure Kubernetes Cluster using Kops
  9. Manage Kubernetes using EKS cluster.
  10. Create Kubernetes Cluster and Management.
  11. Kubernetes PODs Management
  12. Kubernetes Services
  13. Kubernetes Deployments
  14. Kubernetes Replica Sets
  15. ConfigMaps
  16. Secrets
  17. Ingress Controllers
  18. Statefulset Deployments
  19. Persistent Volumes
  20. Persistent Volume Claims
  21. Helm Deployments
  22. Rancher Integration
  23. Q&A - Discussion on Interview Questions.

## Jenkins

* 1. What is Jenkins
  2. Jenkins Architecture
  3. Jenkins Installation and Configuration
  4. How to Create Jenkins Pipeline
  5. Jenkins Plugins Setup
  6. Pipeline as Code - Groovy
  7. Jenkins CI Pipeline setup
  8. Jenkins CD Pipeline Setup
  9. Jenkins Secrets
  10. Jenkins Tool configuration
  11. Jenkins Slave/Agent setup
  12. Jenkins Integration with Git, Bit Bucket, Apache Tomcat, Sonar, Jfrog, Docker, Ansible, Apache Maven, K8s, Helm etc…
  13. Q&A - Discussion on Interview Questions.

## Logging - Elastic Stack

* 1. Install and setup Elastic Stack - Fluentd, Elasticsearch, Kibana
  2. How to Log PODs
  3. Q&A - Discussion on Interview Questions.

## Monitoring - Prometheus & Grafana

* 1. Setup Monitoring stack
  2. Visualize real-time application metrics
  3. Q&A - Discussion on Interview Questions.

## Scrum Process

* 1. JIRA Tool
  2. Scrum Management
  3. Real Time DevOps Lifecycle Project Flow
  4. DevOps Engineer Roles & Responsibilities
  5. Mock Interview Support
  6. Resume Preparation
  7. WorkBeforeGetJob - Real Time Work Demonstration with Practicality.
  8. Q&A - Discussion on Interview Questions.

# Security & Provisioning

## Security

* 1. Security best practices
  2. Infra security
  3. Application Security

## Automation Provisioning

* 1. Infra Provisioning
  2. Application Provisioning

1. **Q&A - Discussion on Interview Questions.**

# Scripting

## Python

* 1. Python basics
  2. Python variables
  3. Python modules
  4. Python use cases
  5. Q&A - Discussion on Interview Questions

# Weekly Assignments

1. Weekly Assignments on every Friday based on real-time scenarios.

# Real Time Projects

## AWS:

* 1. Realtime 3-Tier Architecture Project

## Ansible

* 1. Linux Patching Automation Project
  2. Software Provisining with Packer Integration

## Docker

* 1. web application deployment using Docker Compose

## Jenkins

* 1. Declarative pipeline for Build and Deployment using Helm as deployment tool
  2. Build and Release Pipelines - Integration of Git, Bitbucket, maven, Sonar, Jfrog, Ansible, Docker, Helm, Kubernetes.

## Terraform

* 1. Deploy 3-tier Architecture
  2. Deploy Lambda Serverless Architecture

## ElasticStack

* 1. Deploy Elastic Stack to log PODs

## Kubernetes

* 1. Deploy Microservices Architecture