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DEVOPS COURSE

WHY LITZ TECH?

Learn IT Zone is a pioneer in facilitating education using breakthrough technologies. With dedicated teams academic experts, the company has been on the forefront of heralding the next advancement in learning, thus becoming a distinctive player in bridging geographical and cultural borders, we are well connected with the networks of colleges and IT solutions. LITZ TECH INDIA PVT LTD recruits well performing students of Learn IT Zone that provides an effective career.

KEY FEATURES

- Train from professionals with industry experience
- Learn theoretical concepts and gain hands-on training simultaneously
- Real time Hands-On Practical Experience Training to imbibe corporate practices
- Get certified at the end of the training
 - Receive placement support once the training is completed
 - Getting exposure to latest technology up gradations.
- Advanced lab facility and most updated syllabus and materials will be provided with learning tools for easy learning
- You will have the access to contact the trainers at any time.

Course Syllabus

Module 1 : – Introduction to Devops

- Define Devops
- What is Devops
- SDLC models,Lean,Agile
- Why Devops?
- History of Devops
- Devops Stakeholders
- Devops Goals
- Important terminology
- Devops perspective

- Devops and Agile
- Devops Tools
- Configuration management
- Continuous Integration, Continuous Deployment and Continuous Delivery

Module 2 : Introduction to Cloud computing

- What is cloud computing
- Characteristics of cloud computing
- Cloud implementation models
- Cloud service models
- Advantages of cloud computing
- Concerns of cloud computing

Module 3 : Introduction to Virtualization

- What is Virtualization?
- History of Virtualization
- What is Hypervisor?
- Types of Server Virtualization
- Benefits of Virtualization
- Important Virtualization products

Module 4 : AWS Cloud Technical Essentials

- Amazon EC2
- Amazon Elastic Load Balancer
- Amazon Route 53
- Amazon VPC
- Amazon Simple Storage Service (Amazon S3)
- Amazon Elastic Block Store (Amazon EBS)
- Amazon Content Delivery Network (Amazon CloudFront)
- Amazon Relational Database Service (Amazon RDS)
- Amazon DynamoDB
- Amazon ElastiCache
- Amazon Simple Notification Service (SNS)
- Amazon CloudWatch
- Amazon CloudTrail
- Amazon Simple Email Service (Amazon SES)
- AWS Identity and Access Management (IAM)
- Amazon Command Line Interface API
- S3-Browser

Module 5 : – Fundamental of Linux Administration

Module 6 : GIT: Version Control

Introduction

- Version control systems
- Local, Centralized and distributed

Installing Git

- Installing on Linux
- Installing on Windows
- Initial setup

Git Essentials

- Creating repository
- Cloning, check-in and committing
- Fetch pull and remote
- Branching

Module 7: Jenkins – Continuous Integration

- Introduction to Jenkins
- CI/CD Concepts
- Continuous Integration and Continuous Delivery
- Quiz: CI/CD Concepts
- Installing and Configuring Jenkins
- Prerequisites
- Jenkins Install
- The Dashboard

- User Management and Security
- Adding a Jenkins Slave
- Setting Up GitHub
- Plugin Manager
- Exercise: Install a Jenkins Master and Prerequisites
- Exercise: Configuring Matrix-Based Security
- Exercise: Add a Jenkins Slave
- Exercise: Working with the Plugin Manager
- Quiz: Installing and Configuring Jenkins
- Projects
- Freestyle Project Configuration
- Source Code Management and the Git Plugin
- Git Hooks and Other Build Triggers
- Workspace Environment Variables
- Parameterized Projects
- Upstream/Downstream Projects and the Parameterized Trigger Plugin
- Folders
- Views
- Exercise: Configure a Parameterized Freestyle Project?
- Hands-on Labs: Configure a Jenkins Freestyle Project
- Hands-on Labs: Jenkins Upstream and Downstream Projects with the Parameterized Trigger
- Plugin
- Quiz: Projects
- Pipelines
- Our Java Pipeline Project
- Docker Install
- Installing and Configuring Ant
- The Jenkinsfile
- Configuring and Running a Pipeline
- Artifacts and Fingerprints
- Exercise: Build a Simple Pipeline Without SCM
- Hands-on Labs: Configure a Jenkins Pipeline
- Quiz: Pipelines
- Testing With Jenkins
- About Testing
- Unit Testing with JUnit and Ant
- Deploying to Apache
- Functional Testing

- Quiz: Testing With Jenkins
- Pipeline Enhancements
- Multibranch Pipelines and Code Promotion
- Tagging
- Notifications
- Shared Pipeline Libraries
- Exercise: Configure Notifications in a Pipeline
- Hands-on Labs: Configure a Jenkins Multibranch Pipeline
- Quiz: Pipeline Enhancements
- Advanced Jenkins Administration
- The Jenkins CLI
- The Jenkins REST API
- Setting Up a Jenkins Master with Docker
- Exercise: Using the Jenkins CLI
- Exercise: Using the Jenkins REST API
- Quiz: Advanced Jenkins Administration

Module 8: Continuous Testing with Selenium

- Introduction to Selenium
- Why Selenium?
- Selenium – WebDriver
- Creating Test Cases in Selenium WebDriver (Waits)
- What and why X-Path
- Handling different controls on Webpage
- Framework in Selenium
- Selenium Integration with Jenkins
- Implementation of Selenium in the Project

Module 9 :Nagios: Monitoring

- Introduction
- Configuring Our Server
- Configuring Nagios Core
- Nagios: The Basics – I
- Plugins
- Checks
- Hosts, Host Objects, and Host Definitions
- Macros
- Services, Service Objects, and Service Definitions
- Commands, Command Objects, and Command Definitions
- Timeperiods and Timeperiod Definitions
- Contacts, Contact Objects, and Contact Definitions
- Notifications
- Verifying Our Configuration and Starting Nagios

- Configuring Apache
- Authoring Groups
- Templates
- Adding Remote Hosts
- Monitoring Remote Hosts via Publicly Available Ports
- Installing the Nagios Remote Plugin Executor
- Exercise: Adding a Remote Host
- Exercise: Installing the Nagios Remote Plugin Executor
- Nagios: The Basics – II
- Active Checks Using NRPE
- Passive Checks
- Exercise: Adding Services to Service Groups
- Exercise: Troubleshooting HTTPS Checks on the Nagios Core Host
- Exercise: Troubleshooting the NRPE on Remote Hosts
- Quiz: Nagios Basics
- Beyond Basics: Escalations, Event Handlers, and Dependencies
- Event Handlers
- Escalations
- Host and Service Dependencies
- Reports
- Exercise: Active Check w/NRPE
- Exercise: Monitoring MySQL With Nagios Core and NRPE
- Quiz: Final Quiz

Module 10 :Ansible

- Introduction to Ansible
- Ansible Agentless Architecture
- Installation
- Ansible Inventories
- Ansible Modules
- Ansible Playbooks

Module 11: Containerization using kubernets

- Revisiting Kubernetes Cluster Architecture
- Spinning up a Kubernetes Cluster on Ubuntu VMs
- Exploring your Cluster
- Understanding YAML
- Creating a Deployment in Kubernetes using YAML
- Creating a Service in Kubernetes
- Installing Kubernetes Dashboard
- Deploying an App using Dashboard
- Using Rolling Updates in Kubernetes

- Containers and Container Orchestration
- Introduction to Kubernetes

Module 12 :Docker– Containers

Introduction of Docker

- What is a Docker
- Use case of Docker
- Platforms for Docker
- Dockers vs Virtualization

Architecture

- Docker Architecture.
- Important Docker components
- Understanding the Docker components

Installation

- Installing Docker on Linux.
- Understanding Installation of Docker on Windows.
- Some Docker commands.

Provisioning

- Docker Hub.
- Downloading Docker images.
- Running Docker images
- Running commands in container.
- Running multiple containers.

Custom images

- Creating a custom image.
- Running a container from the custom image.
- Publishing the custom image.

Docker Networking

- Accessing containers
- Linking containers
- Exposing container ports
- Container Routing

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