PSK TECHNOLOGIES PVT. LTD.

**Web Development & Training ,Sales & Services**

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## **DevOps Training in Nagpur**

Module-1:   DevOps Introduction (3 Hours)

* What is DevOps?
* DevOps Roles
* DevOps Necessities
* DevOps Problems & Solution
* Making a DevOps Transition
* DevOps: Continuous Delivery and Benefits
* DevOps: Lean thinking, a change of culture

Module-2:   Basic Linux and Networking Concepts(3 Hours)

* Architecture and Filesystem of Linux
* Linux Bash Commands
* Managing Services on Linux
* Installing and Configuring Apache

Module 3 – Cloud Computing with AWS  (10 hours)

Introduction to Amazon Web Services

* Fundamentals of Cloud Computing
* AWS Cloud – EC2, Security Groups, Amazon Machine Images, Key Management, Elastic IP etc.
* Developing and Deploying Python application on AWS
* Understanding DevOps on AWS using AWS’s own DevOps tools

Module 4 – Scripting Introduction with Ruby,  Shell (8 Hours)

* Programming with Ruby & Shell Scripts
* Understanding fundamentals of Software Programming
* Ruby – Syntax, Variables, Decision Making etc.
* Shell Scripting – Learning to automate Operating System

Module 5 – Source Code Management and Version Control (3 Hours)

* Source Code Management using GitHub
* Private Source Code Management System using GitLab
* Working on Git Command Line
* Build Tools (Maven/Grid)

Module 6 – Continuous integration with Jenkins (6 Hours)

* Jenkins – Installation
* Jenkins – Configuration
* Jenkins – Management
* JenKins – Setup Build Jobs
* Jenkins – Testing

Module- 7 – Chef and its component (6 Hours)

* Chef: Introduction
* Chef: knife
* Chef: knife demo
* Chef: knife with chef-server
* Chef: Roles
* Chef: knife with chef-server – demo
* Learn where Ruby is installed
* Understand basic Ruby data types
* Understand some of the common Ruby objects used in Chef
* Familiarity with the ways Chef uses Ruby for DSLs

Module 8 – Continuous Monitoring with Nagios, ELK and Grafana (5 Hours)

* Host Monitoring using Nagios
  + Installation
  + Nagios Coding Language
  + Windows Monitoring
  + Linux Monitoring
  + Port Monitoring
* Log Monitoring using ELK Stack
* Application Monitoring using Grafana

Module 9 – Ansible, Infrastructure as a Code (6 Hours)

* Understanding Configuration Management
* Understanding Configuration Automation
* Understanding Desired State Configuration Management
* Understanding Continuous Configuration Automation
* Understanding Idempotent Configuration Management
* Understanding Resources
* Understanding Providers
* Understanding Server Client based Configuration Automation
* Understanding Remote Configuration Automation
* Case Study Ansible Vs Chef Vs Puppet

Module 10 – Ansible Tool ( 6 Hours)

* Introduction of Ansible tool
* Introduction to YAML Syntax
* How to Installation Ansible?
* Ansible: First Playbook
* Ansible: First Playbook demo
* Basic: Running Commands
* Ansible: Roles, Files and Handlers
* Utilizing Ansible Vault for Encryption/Decryption
* Ansible: Best Practices

Module 11 – Docker Session & Orchestration Tools (6 Hours)

* Introduction to micro services
* Introduction to Docker
* Docker Demo
* Create Docker Ized Application
* Docker Networking
* Persistence Storage
* Docker Swarm
* Docker Compose

Module 12 – Kubernetes (6 Hours)

* What is Kubernetes
* Technical Overview of Kubernetes
* Kubernetes enviornment setup
* Kubernetes pod and replica set
* Kubernetes Basics
* Deploying Sample Application

Live Projects

1. Project 1:Create an end to end automation of leading web application framework automation involving application configuration, database configuration, platform configuration and vm configuration
2. Project 2:Managing Web application using Configuration management tool  and creating deployment pipeline
3. Project 3 :Dockerizing Web application and creating deployment pipeline for the same
4. Project 4 : Managing dockers at scale by using kubernetes in a 4 server cluster
5. Project 5 : Monitoring Windows and Linux platforms and tools using Nagios monitoring system