DevOps Training Agenda

1. About The Course

In this course, we look at the necessity of Devops and how a DevOps transformation can help focus on value and streamlined delivery. We will also cover concepts like Automation and technology which play huge roles in DevOps success; in this course we'll analyze the major capability areas and which tools/technologies can get your team on its way.

2. Course Objectives

After the completion of DevOps course ,you will be able to:

1. Understand theneed for DevOps and the problems it resolves.

2. Learn about the common Infrastructure Servers, Scalability and Availability

3. Basic Overview of Scripting Languages

4. Implement Virtualization Concepts

5. Understand the need and concepts of Monitoring and Logging

6. Learn various DevOps tools Chef, Jenkins, Subversion, Nagios, GIT,

etc.

3. Who should go for this course?

This is a foundation course to anyone who aspires to become a DevOps Engineer .And this Course Is designed for people who have little or no knowledge of development and Operations. This course provides basic overview of DevOps focused mainly at Entry Level DevOps Engineer.

4. Why learn DevOps?

"DevOps" denotes close collaboration and cross-pollination between previous cases i.e, purely the development roles, operations roles and QA roles. As it is necessary for the software to release at an ever-increasing rate, the old SDLC (software Development Life Cycle) based on Water Fall model i.e. Develop-test-release cycle is broken. Devops provides us with consistent software delivery, faster resolution of complex problems and feature delivery.

5. Introduction to DevOps and its Necessities

1. Learning Objectives-

In this module, you will understand what is DevOps and its necessities, its day-to-day roles and the problems& solutions. You will also learn about the various infrastructure layouts and understand Scalability and Availability. Brief about Phases in DevOps- CP, CI, CD (including environment provisioning)

- Understand the need for Release Engineering
- Learn About how Agile development Methodology works
- Get familiar with various Software Release Methodologies
- Under the concepts & fundamentals of Versioning
- Under the concepts & fundamentals of Build management
- Under the concepts & fundamentals of CI
- Under the concepts & fundamentals of Release management
- Learn tools like Git, Maven, and Jenkins etc.
- Configuration management with Chef.

2. Tools:

- Version Control tools : svn,git.
- Build tools : Ant, Maven
- Continuous Integration tools :Jenkins
- Configuration management with Chef and puppet
- Cloud computing with AWS.

3. Version control:

- ✓ Software Configuration Management overview & fundamentals
- ✓ Elements of Software Configuration Management
- ✓ Establishing change control Procedures in SDLC
- ✓ Version Control Terminologies
- ✓ Version control LIFE CYCLE
- ✓ Install & Configure SVN
- ✓ Repository Setup
- ✓ Performing, Reviewing & Updating changes
- ✓ exploring Branching, Merging and Tagging

- ✓ Introduction to Distributed version controlling

4. Build:

- ✓ Overview of Build management
- ✓ Build best practices
- ✓ Need of Build tools
- ✓ Introduction to Ant
- ✓ Ant Environment Set-up
- ✓ Anatomy of a Build file
- ✓ Projects
- ✓ Properties
- ✓ Targets
- ✓ Tasks
- ✓ Data Types
- ✓ Different ways to Run a build file
- ✓ Packaging Applications
- ✓ Deploying Applications

5. Continuous Integration:

- ✓ Concept of Continuous Integration
- ✓ What does it really mean ?
- ✓ CI workflow
- ✓ Benefits & why Jenkins ?
- ✓ Jenkins Installation and Configuring
- ✓ Set up Nodes
- ✓ Configuring & Managing nodes
- ✓ Managing Plugins

- ✓ Access control
- ✓ Creating jobs
- ✓ Jenkins working dir
- ✓ Master - slave
- ✓ Build with parameters
- ✓ Downstream/Upstream projects
- ✓ Run Ant/Maven project
- ✓ Views
- ✓ Setting a Continuous job to build & publish when a change is submitted
- ✓ Publishing test cases (Junit, selenium)

6. Configuration management with Chef and puppet

- ✓ Overview of Chef
- ✓ Common Chef Terminology (Server, Workstation, Client, Repository etc.)
- ✓ Servers and Nodes
- ✓ Chef Configuration Concepts
- ✓ Workstation Setup
- ✓ How to configure knife
- ✓ Execute some commands to test connection between knife and workstation
- ✓ Organization Setup
- ✓ Create organization
- ✓ Add yourself and node to organization
- ✓ Test Node Setup
- ✓ Create a server and add to organization
- ✓ Check node details using knife
- ✓ Databags
- ✓ How to create Databags
- ✓ Add Databags to organization
- ✓ Node Objects and Search
- ✓ How to Add Run list to Node

- ✓ Check node Details
- ✓ Environments
- ✓ How to create Environments
- ✓ Add servers to environments
- ✓ Roles
- ✓ Create roles
- ✓ Add Roles to organization
- ✓ Advanced Chef
- ✓ What is foodcritic and TestKichen
- ✓ Improve and expand on the existing recipes
- ✓ One-click system launching

DEVOPS TOOLS: PUPPET

- ✓ Introduction to Puppet
- ✓ Installation and Configuration of Master server and agents
- ✓ Managing Manifests
- ✓ Creating and Managing modules
- ✓ Version control with Puppet

7. Cloud computing with AWS.