DevOps

INTRODUCTION TO DEVOPS

* What is DevOps?
* History of DevOps
* Dev and Ops
* DevOps definitions
* DevOps and Software Development Life Cycle
* DevOps main objectives
* Infrastructure As A Code
  + IaaS Overview
  + Paas Overview
* DevOps on the Cloud
* Prerequisites for DevOps
* Introduction to Linux
  + Basics of UNIX and Linux Operating Systems
  + Linux System administration introduction
* Tools (Jenkins, Chef, Docker, Vagrant and so on.)
* Continuous Testing and Integration
* Continuous Release and Deployment
* Continuous Application Monitoring

DEVOPS ADOPTION

* CRITERIA
  + Things to Look For and Avoid
  + IT Assets Ownership
  + Viewing Applications As Products, not Projects
  + DevOps in the Enterprise
  + IT Governance
  + Governance and Risk Mitigation
  + DevOps Adoption Steps
  + Select DevOps Techniques and Practices
  + Service Quality Metrics
* TOOLS
  + The Choice of Cloud Platform
  + IaaS for DevOps
  + PaaS for DevOps
  + Containerization Tools
  + System Configuration Automation and Management
  + Continuous Integration (CI) Systems
  + Build and Dependency Management Systems
  + Select DevOps Tools
  + Collaborative Lifecycle Management Solutions from IBM
  + Rational Team Concert (RTC)
  + Rational Quality Manager (RQM)
  + Rational DOORS Next Generation (DNG)

DEVOPS TOOLS: CHEF

* 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

DEVOPS TOOLS: VAGRANT

* Introduction
  + What is Vagrant
  + Uses of Vagrant in an environment
* Installation and Configuration
  + How to install Vagrant in Windows and Linux
  + Configure Vagrant
* Provisioning with Vagrant
  + How to use Vagrant to create small virtual
  + Add required Images to Vagrant
* Using Vagrant
  + Using Vagrant in Chef for Testing

DEVOPS: SOURCE CODE MANAGEMENT

* GIT REPOSITORY
  + What is a version control system?
  + What is a distributed version control system?
  + Installation
  + Different levels of Git configuration
  + The process of staging and committing
  + The details of the commit objects
* NEXUS
  + Nexus prerequisites
  + Installing and Running Nexus
  + Using the Nexus User Interface

CONTINUOUS INTEGRATION

* INTRODUCTION TO JENKINS-CI
  + Continuous Integration with Jenkins Overview
  + Installation
  + Configure Jenkins as stand-alone application
  + Configure Jenkins on an Application Server
  + Jenkins management
  + Suport for the Git version control systems
  + 999Different types of Jenkins Jobs
  + Setting up a Jenkins job
  + Scheduling build Jobs
  + Maven Build Scripts
  + Securing Jenkins
    - Authentication
    - Authorization
    - Confidentiality
    - Creating users
  + Jenkins Plugin
    - Installing Jenkins Plugins
    - SCM plugin
    - Build and test
    - Analyzers
  + Distributed builds with Jenkins
  + Best Practices for Jenkins

DEVOPS: MONITORING

* NAGIOS
  + How to monitor the Servers in Nagios
  + Trigger Alerts in Nagios
  + How to apply blackouts and remove blackouts
* ZENOSS
  + How to monitor the Servers in Zenoss
  + Trigger Alerts in Zenoss
  + How to apply blackouts and remove blackouts
  + How to check events; CPU, Memory and RAM Graphs for servers

DEVOPS: APPLICATION ARCHITECTURE

* Web Forms
* User Controls
* Shared UI Code
* Business Logic

CONFIGURATION MANAGEMENT

* Configuration Management Activity
* Configuration Control
* Incident Management
* Change Management
* Problem Management

GENERAL ENVIRONMENT SETUP STEPS IN AWS and NTTA

* Creating Servers and Networks in Cloud
* Setting up rules and Application
* Difficult Scenarios in environments.
* Scaling
  + Environment testing
  + Monitoring logs

MISCELLANEOUS

* Other Tools used in DevOps.
* Docker