



LINUX Basics

Unix and linux difference

- Linux File system structure
- Basic linux/unix commands
- Changing file permissions and ownership
- Types of links soft and hard link
- Filter commands
- Simple filter and advance filter commands •
- Start and stop services
- Find and kill the process with id and name
- Package installation using RPM and YUM

Introduction to Devops

- Define Devops
- What is Devops
- SDLC models,Lean,ITIL,Agile
- Why Devops?
- History of Devops
- Devops Stakeholders
- Devops Goals
- Important terminology
- Devops perspective
- Devops and Agile
- Devops Tools
- Configuration management
- Continuous Integration and Deployment

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

GIT: Version Control

- Introduction
 - What is Git
 - About Version Control System and Types ◦ Difference between CVCS and DVCS
 - A short history of GIT ◦ GIT Basics ◦ GIT Command Line
- Installing Git ◦ Installing on Linux ◦ Installing on Windows ◦ Initial setup • Git Essentials ◦ Creating repository ◦ Cloning, check-in and committing ◦ Fetch pull and remote ◦ Branching
Creating the Branches, switching the branches, merging the branches.

Chef for configuration management

- 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 • 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
 - Attributes ◦ Understanding of Attributes ◦ Creating Custom Attributes ◦ Defining in Cookbooks
 - Data bags ◦ Understanding the data bags ◦ Creating and managing the data bags ◦ Creating the data bags using CLI and Chef Console ◦ Sample data bags for Creating Users.
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- Creating AWS account
 - Free tier Eligible services
 - Understanding AWS Regions and availability zones ◦ EC2 (Elastic Cloud Comput)
 - About EC2 and types , Pricing
 - EIP (Elastic IP address), Allocating, associating , releasing
 - Launch windows and Linux Instances in AWS
 - Connecting windows and Linux instances from windows desktop and Linux machines ◦ S3 (Simple Storage Service)
 - About AWS Storage services, EBS and S3
 - Creating S3 Buckets and putting objects in bucket
 - Discussion about Bucket Properties S3 Pricing
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- About S3 glacier ○ EBS (Elastic Block Storage)
- Types of EBS Volumes
- Creation, attaching and Detaching volumes ○ ELB (Elastic Load Balancer) ▪
Understanding the load balancing
- Configuring ELB and adding the webservers under ELB ○ Auto Scaling
- Types of Scaling (Horizontal and Vertical)
- Configuring Launch Configuration
- Creating and defining the auto scaling group policy ○ IAM (Identity Access Management)

- Understanding of AWS Security using IAM
- Definition of Roles, policies and Groups
- Creating IAM Users and managing password policies

- RDS (Relational Database server) ▪
- About RDS and available RDS Engines in AWS
- Configuring MYSQL RDS service ▪
- Connecting EC2 Instance to RDS Instance

Puppet for configuration management

- What isPuppet?
- How puppet works
- Puppet Architecture
- Master and Agents
- Puppet terminology and about Manifests ○ Installation and Configuration
- Installing Puppet



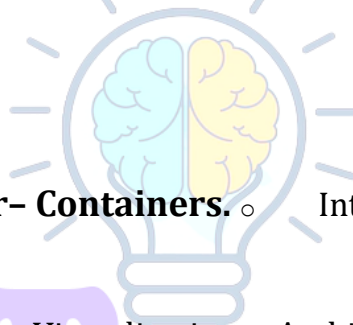
FEEDNETTEACHINGS

- Configuring Puppet Master and Agent
- Connecting Agents
 - Puppet Master
 - Puppet configuration files
 - Puppet Language Basics
 - The declarative language
- Resources
- Using Basic resources like file,exec,package service
- Resource Collectors
- Virtual Resources
- Exported Resources
- Manifests
- Modules and Classes
- Class Parameters
- Defined Type
- Templates
 - Static Contents Explosion
 - Using Dynamic Content with Templates
 - Templates Overview ERB
 - Example Code Manifests/Modules
 - NTP Module
 - Users Module
 - SSH
 - Sudo
 - Puppet Forge
 - Understanding the Puppet Forge
 - Module structure
 - Install LAMP with preexisting modules
 - Installing Apache Tomcat with Puppet Modules

Jenkins – Continuous Integration

- Introduction.
- Understanding continuous integration
- Introduction about Jenkins
- Build Cycle
- Jenkins Architecture
- Installation
- Obtaining and installing Jenkins
- Installing and configuring Jenkins using WAR and RPM

- Java installation and configuration
- Maven Installation ▪ Exploring Jenkins Dashboard.
- Jobs ▪ Creating Jobs
- Running the Jobs
- Setting up the global environments for Jobs
- Adding and updating Plugins ▪ Disabling and deleting jobs ○ Build Deployments ▪ Understanding Deployment. ▪ Tomcat installation and configuration ○ Securing Jenkins ▪ Authentication
- Jenkins Plugin
- Authorization
- Confidentiality
- Creating users
- Best Practices for Jenkins **Docker- Containers.** ○ Introduction ▪ What is a Docker
- Use case of Docker
- Platforms for Docker ▪ Dockers vs. Virtualization ○ Architecture ▪ Docker Architecture.
- Understanding the Docker components
- Installation
 - Installing Docker on Linux.



FEEDNETTEACHINGS

- Understanding Installation of Docker on windows.
- Some Docker commands.
 - Provisioning
 - Docker Hub.
 - Downloading Docker images.
 - Uploading the images in Docker Registry and AWS ECS
 - Understanding the containers
 - 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

Accessing containers

- Linking containers
- Exposing container ports
 - Container Routing
 - Docker Compose
- Installing The Docker compose
- Terminology in Docker compose
- Build word press site using Docker compose

- Introduction
 - Why and what is Vagrant

Why and what is Vagrant

- Uses of Vagrant in an environment
- Alternatives of Vagrant
 - Vagrant versions
 - Installation and Configuration
- Installing Virtual box
- How to install Vagrant on Windows and Linux
- Configuring Vagrant
 - Provisioning with Vagrant
 - Creating first VM with Vagrant
- Operations on the VM
- Connecting to the VM
- Add required Images to Vagrant
- Creating network and port forwarding using Vagrant

NEW RELIC

- Introduction
 - About Monitoring tools

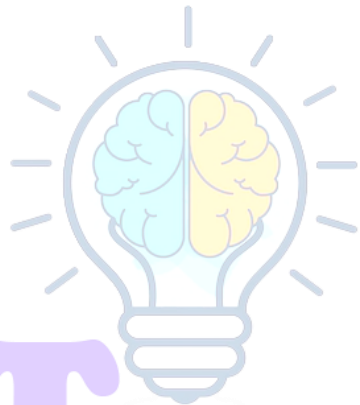
About Monitoring tools

- About New Relic
- Installing and Configuring New Relic

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- Application Monitoring using New Relic
- Server Monitoring using New Relic
- Alerts policies

ELK

- Introduction
 - What is ELK?
 - ELK Installation
 - Elasticsearch
 - Logstash
 - Configuring Logstash and Kibana



TEEDNE TEACHINGS