

# DEVOPS COURSE CONTENT

- Introduction to DevOps and its Necessities
- DevOps, DevOps Roles
- DevOps Necessities
- DevOps Problems & Solutions
- Making a DevOps Transition
- Identifying cultural impediments and overcoming it
- Building Accountability and Trust
- Understanding the Infrastructure layouts and its Challenges
- Understand Scalability and Availability
- Networking Concepts from an enterprise prospective
- Understand Common Infrastructure Servers
  - Working of DNS Server at Internet Scale
  - DNS Configuration
  - DNS Installation
  - Understand the working of Geolocation
  - Understand Web Servers like Apache
  - Nginx and their differences
  - Configure Apache and Nginx for the Enterprise
  - Understand HA and Setup HA Proxy for various Servers
  - Setup NFS and Openfiler for storage presentation
- Implement Automated Installations and Deployments
  - Installation of Linux Servers using PXE boot or kickstart method
  - Automatic system updates
  - Configure SVN or Git for version control
  - Configure Jenkins for Build and deployments
  - Building an RPM package
  - Installation and Configuration of Puppet for deployments

- Understand Performance tuning aspects and basic Security for Infrastructure
  - Operating system tuning concepts and its Concerns
  - Performance and Use Cases
  - Types of Disk Schedulers
  - Network tuning Parameters and their Influence
  - Bench marking servers like Apache Web Server
  - Understand the Security at the OS and Network level
  - Configure Linux Firewall and other security aspects for a secured environment
- Basics of Bash/Python Scripting
  - Basics of Bash Shell like file descriptors
  - Environment
  - Understand the basic syntax of bash scripting
  - Understand loops
  - its conditions and return status
  - Understand and configure crontab for automating a task
  - Installation and Configuration of ClusterShell for deployments on large clusters
  - Basics of Python and its comparisons with bash scripting
- Basics of Virtualization and it's Concepts
  - What is Virtualization?
  - Types of Virtualization
  - Difference between Xen and KVM
  - Installation of virtual machines using Virtualbox
  - Vmware
  - KVM
  - Understand the various components of virtualization
  - Introduction to the Cloud virtualization
    - Monitoring And Logging
      - Understand Logging in Linux systems and its working for various services
      - Introduction to various logging tools
      - Understand System auditing
      - Install and Configure Nagios Monitoring for the Infrastructure
      - Writing custom plugins for Nagios

- The Useful DevOps Tools & Commands
  - Understand the Dev and Production environments in an organization
  - DevOps Best Practices
  - Understand Openssl and Openssh details
  - Understand rsync for backups
  - Understand Commands like: lsof
  - netstat
  - Understand Virtual Memory
  - Free, top, vmstat, iostat, uptime, find, screen and strace
  - Disk commands like – df, du, mkfs, tune2fs, fdisk and dd
  - Understand /etc/fstab
  - mount commands