

Syllabus and Lesson Planner

Course	DEVOPS	Syllabus
Subject	DEVOPS	
Tr's Name	Praveen Kumar K	
Ch. No.	Name of Chapter	
		Topic
1	Linux Administration	Open source Philosophy Distributions Embedded systems Command Line Basics Basic Shell Command Line Syntax – ls Command Line Syntax – \$PATH, Case Sensitivity Command Line Syntax – Basic Commands Command Line Syntax – uname Command Line Syntax – Command History, Command Completion Command Line Syntax – cd and pwd Shell Configuration Files Variables – Environment / System Variables Variables – User Defined Globbing Quoting Formatting Commands Working with Options Using the Command Line to Get Help Man Info locate, find, whereis, and using /usr/share/doc/ Exercise: Man Page Walkthrough Exercise: Basic Command Line Using Directories and Listing Files The Linux File System Files, Directories Hidden Files and Directories
2	Shell Scripting	Introduction Variables Flow Controls Loops Functions Lists Manipulating Strings Reading and Writing Files Positional Parameters
3	Introduction to DevOps Principles in detail	DevOps Engineer Skills in the market Knowing DevOps Delivery Pipeline Market trend of DevOps DevOps Technical Challenges Tools we use in DevOpsps
4	GIT – A version control tool	Knowing about – A CLI Essentials of GIT in industry How to setup GIT Installing GIT First-Time GIT Setup Getting a GIT Repository Working with various commands in GIT Recording Changes to the Repository How to check the Status of Your Files How to track New Files Staging our modified files Ignoring Files from GIT Viewing Your Unstaged and Staged Changes How to commit Your Changes Skipping the Staging Area and commit Removing Files from GIT Viewing the Commit History Limiting Log Output Using a GUI to Visualize History Undoing Things Changing Your Last Commit Unstaging a Staged File Unmodifying a Modified File Working with Remotes Showing Your Remotes Adding Remote Repositories Pushing and Pulling from Your Remote Deleting a Remote from Your Remote
5	Jenkins – Continuous integration	An example scenario where CI is used Know about Jenkins and its architecture in detail Jenkins tool Management in detail Installing Jenkins Post-installation setup wizard Unlocking Jenkins Customizing Jenkins with plugins Creating the first administrator user Know about User management in Jenkins Authentication Jenkins own database user creation Options to enable integration with LDAP Authorization Matrix based authorization Project based authorization Overview of Maven Maven project structure Maven plugins Project Object Model (POM) – fundamental unit of work in Maven project Maven build lifecycle Adding external dependencies to maven pom.xml aven build and test project Creating jobs and automatic build settings What is Jenkins Pipeline? What is a Pipeline?
6	Docker – A containerization technology	Introduction Real-world Shipping Transportation Challenges Introducing Docker and its technology Understanding of Docker images and containers Working with container How to Share and copy a container Container Life Cycle How to use Base Image and customize Creation of Docker File How to Publish Image on Docker Hub Introduction to Docker Networking Network Types in docker technology Docker Container Networking Docker Compose – An introduction Docker Swarm – An introduction Use Docker Compose to create php, wordpress, mysql How to Start Containers on a Cluster with Docker Swarm Creating and Scaling an application in Docker swarm
7	Ansible – A configuration Management	Introducing Ansible – A configuration management tool Basics / What Will Be Installed Understanding Ansible architecture Control Machine Requirements Inventory Hosts and Groups
8	KUBERNETES	Introduction to Kubernetes (K8S) Kubernetes – Architecture Kubernetes – Monolithic Architecture of Kubernetes Kubernetes vs Docker Installation and Setup Kubernetes – Installation Methods •Introduction Terraform Construction
9	TERRAFORM	•Terraform Construction (on Windows) Vagrant is used to install Terraform Terraform Terraform Fundamentals •Terraform's First Steps – AWS Setup •Terraform's first steps – spinning up an instance
10	NAGIOS	Introduction to Nagios Core Installation of Nagios Server Configuration of Nagios Server & Agent NRPE (Nagios Remote Plugin Executor) Configuration of Nagios.cfg and Contacts.cfg Monitoring Hosts

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Class-Div		<i>Syllabus</i>		
Subject				
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Ch. No.	Name of Chapter	Topic	Month	Week
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