HYSEC

DevOps Job ready program

Module-1   AWS Cloud Feature and Services

aws

- ➢ AWS free tier account activation and enable AWS Services and Features
- ➢ Create Windows server 2022 Ec2 Instance and establish connectivity using RDP
- ➢ Storage types and how to create S3 Bucket & enable the features
- ➢ Create Security Group and add TCP rules and install and Publish (IIS web server)
- ➢ Create default VPC and customize VPC and peering between local and global
- ➢ AWS Identity Access Management and user and group role base permissions and policies
- ➢ AWS Auto-scaling and Load balancing, application and network load balancing
- ➢ AWS Virtual Private Network VPN secure communication over the Internet
- ➢ Configure and hosting static website on AWS cloud and Route 53
- ➢ What is database and establish the connectivity between Cloud and on-premises

Module-2   Linux: Centos

- ➢ Amazon Linux Ec2 Instance and establish connectivity using puttygen and putty
- ➢ Learn and use Linux File and Directory Operation commands
- ➢ Learn and use Linux User, Group Management and system control commands
- ➢ Learn and use Linux Networking and System Information commands
- ➢ Learn and use Linux Archiving, Compression, Permissions and Security commands
- ➢ Amazon Linux Ec2 Instance and install web server httpd and publish webpage
- ➢ Amazon Linux Ec2 Instance and install web server nginx and publish webpage
- ➢ Linux security ssh-keygen and IP tables commands
- ➢ Basic bash scripting
- ➢ Bash scripting and examples

Module-3   DevOps methodology

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DevOps Methodology (Development + Operation = DevOps)

- ➢ Evolution of DevOPs from agile
- ➢ DevOps Engineer Skills in the market
- ➢ Knowing DevOps Delivery Pipeline Market trend of DevOps
- ➢ DevOps Technical Challenges Tools we use in DevOps
- ➢ We use DevOps Tools and platform

Module-4   Git and GitHub Version Control System

- ➢ Git Installation and configuration on EC2 Instance and local machine
- ➢ GitHub account activation generate secret key and create public / Private repository
- ➢ GitHub integration with local repository
- ➢ Git operation and code push to GitHub or Gitlab
- ➢ Git advance operation with source code
- ➢ Create environment for developers with 1 local repo and 1 remote repo
- ➢ Create environment for developers with 2 local/branches repo and 1 remote repo
- ➢ Create environment for developers with 4 local/branches repo and 1 remote repo
- ➢ Pull/commit code from GitHub
- ➢ Project

Module-5   Jenkins CI/CD Pipeline

- ➢ Jenkins Installation and configure account
- ➢ Jenkins Plugin and User management
- ➢ Jenkins feature and services
- ➢ Jenkin Integration with GitHub pull source code from GitHub or any remote repository
- ➢ Jenkins create jobs and build job using shell execution
- ➢ Create CI/CD pipeline using Jenkins
- ➢ Create CI/CD for automate deployment the process
- ➢ Create CI/CD pipeline for testing envelopment
- ➢ Create CI/CD pipeline for automate the of deployment on AWS
- ➢ Automate deployment process with help of Jenkins tool

Module-6   Docker containerization

- ➢ Docker Installation on Ec2 on Amazon Linux
- ➢ Docker basic operational commands
- ➢ Docker. Hub account activation and pull/search images
- ➢ Docker pull images and commit
- ➢ How to create Dockerfile
- ➢ Docker run, build, deploy container
- ➢ How to add volume on container
- ➢ Docker port mapping and networking
- ➢ Docker security
- ➢ Docker container run web application Nagios / Jenkins

Module-7   Orchestration (Kubernetes)

➢ Kubernetes Cluster Installation and configuration of minikube
➢ How to create pod in Kubernetes Cluster
➢ How to create multi container in a pod
➢ How to create namespace on Kubernetes Cluster
➢ How to create pod in namespace on Kubernetes Cluster
➢ How to create Multi container pod environment variable on the Kubernetes cluster
➢ How to create multi container in a pod
➢ How to change default namespace on Kubernetes Cluster
➢ How to create Deployment and Replica set
➢ How to create pod in namespace on Kubernetes Cluster
➢ How to open por 80 in a pod
➢ How to create replication controller

Module-8   Ansible Automation Configuration Tool

➢ Ansible Installation configuration
➢ Ansible setup master / node
➢ How to create YAML script for Playbooks
➢ How to Create Playbook
➢ How to implement playbook and Ansible Automation
➢ Ansible's ad-hoc commands and Playbooks
➢ How to manage nodes (servers) in Ansible
➢ Find and reuse Ansible Automation content
➢ How to integrate CI/CD pipeline for Ansible Automation
➢ Creating Playbooks that automate deployment and configuration tasks

Module-9   Terraform IAC Tool

➢ Terraform Installation configuration
➢ Generate security key for AWS provide
➢ How to establish and integration with AWS provide
➢ Terraform commands
➢ How to create ec2 Instance using terraform
➢ How to create resources on AWS provider using terraform

➢ How to use terraform templates
➢ How to create terraform source code and push to remote repository
➢ How to use terraform with other cloud provider
➢ Terraform project

Module-10   Grafana Observability and Monitoring

➢ Installation and configuration
➢ Monitoring and observability
➢ Log management
➢ Grafana Panels
➢ Data sources, and dashboards
➢ Create and update dashboards and manage users
➢ Grafana API
➢ Ansible administrative tasks
➢ Automation and integration with external systems
➢ Create environment and automate task