

Alphanove Academy

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Course Contents

AWS

- **Compute (EC2)** : This module focuses on AWS EC2, covering instance creation, upgrading, and image management for effortless compute management
- **Storage** : This module provides an in-depth understanding of AWS EBS and EFS (NFS), covering storage solutions for efficient and scalable cloud computing.
- **VPC-connectivity** : This module covers the creation and configuration of AWS VPC, including nat instances and gateways, endpoints, and flowlogs, for secure and seamless network connectivity in the cloud.
- **VPN-setup** : This module focuses on VPN connectivity in AWS, including the setup and configuration of OpenVPN for secure and private remote access to your resources in the cloud.
- **AWS-CLI** : This module provides hands-on training on AWS CLI for seamless instance creation, and volume management including creation, snapshots, and attachment/detachment, ensuring efficient compute management in the cloud.
- **Object-storage** : This module provides a comprehensive understanding of AWS S3, covering bucket and object creation, bucket properties, and accessing S3 through the console for efficient and secure cloud storage management.
- **Glacier** : This module focuses on AWS Glacier, covering the creation and configuration of vault storage for cost-effective and durable long-term cloud storage solutions.
- **Elastic Loadbalancer(ELB)** : This module covers AWS Classic ELB setup and configuration for web servers, along with high-availability setup using autoscaling and application ELB setup for efficient and scalable cloud resource management.
- **Route53** : This module provides hands-on training on AWS Route53 for domain registration, record set management, subdomain creation, and configuring route policies across the globe for seamless and secure global network connectivity in the cloud.
- **Rds (Relational Database)** : This module focuses on AWS database management, covering engine creation and connection with web servers, read replica configuration, and multi-zone read replica setup for efficient and scalable database management in the cloud.
- **CloudFront - CDN** : This module provides comprehensive training on setting up AWS CloudFront for website delivery and optimizing website speed for efficient and high-performance content delivery in the cloud.
- **SNS (Simple Notification Service)** : This module provides an in-depth understanding of AWS SNS (Simple Notification Service), covering the creation and configuration of SNS topics and notifications for real-time messaging and event-driven architecture in the cloud.

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- **IAM (identity Access Management)** : This module provides comprehensive training on AWS access management, covering console access, roles, policies, and multifactor authentication for secure and controlled cloud resource management.
- **KMS and ACM** : This module provides an in-depth understanding of AWS Key Management for securing storage solutions, along with Amazon Certificate Manager for SSL certification management, ensuring secure and private cloud resource management.
- **CloudTrail** : This module provides comprehensive training on AWS account auditing and log tracking, covering various auditing tools and techniques to maintain security, compliance, and accountability in the cloud.
- **Monitoring Services** : This module provides a comprehensive understanding of AWS CloudWatch for monitoring cloud resources, as well as third-party monitoring solutions for efficient and secure cloud resource management.
- **AWS Migration Services** : This module provides hands-on training on AWS Server Migration Service (SMS) for seamless migration of virtual machines to EC2, ensuring efficient and hassle-free cloud resource management.
- **AWS Security issues** : This module provides a comprehensive understanding of AWS NACL, covering network access control list configuration for enhanced network security, along with Trusted Advisor best practices for optimizing your AWS infrastructure.
- **ECS - Elastic Container Service** : This module provides an in-depth understanding of AWS ECS (Elastic Container Service), covering container orchestration and management for efficient and scalable application deployment in the cloud.
- **Terraform and Cloud formation** : This module provides comprehensive training on AWS infrastructure as code tools, Terraform and CloudFormation, for seamless and automated infrastructure deployment and management in the cloud.
- **Lambda** : This module provides comprehensive training on AWS Lambda, covering serverless computing, event-driven architecture, and code execution without the need for server management, allowing for efficient and cost-effective cloud resource utilization.

Dev ops

- **DevOps Essentials** : This module provides an introduction to DevOps, covering the reasons for adopting DevOps practices, market trends, required skills for DevOps engineers, the delivery pipeline, the DevOps ecosystem, and real-world use cases to illustrate the benefits of implementing DevOps methodologies.
- **GIT: Version Control** : This module covers Git, a popular distributed version control system. The module provides an overview of version control systems and the types of version control systems, the difference between VCS and Git, the history of Git, Git basics, command line usage, and installation on both Linux and Windows. The module also covers Git essentials, including repository creation, cloning, check-in and committing, fetch, pull, remote, branching, and creating, switching, and merging branches.

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- **Github** : This module provides step-by-step instructions on how to contribute to an open source project on GitHub. The module covers forking a project, cloning the forked repository to your local machine, creating a topic branch for your work, committing changes to your local repository, pushing the changes to your GitHub fork, and sending a pull request back to the original project. By the end of the module, students will have contributed to an open source project and gained a sense of satisfaction for contributing to the community.
- **Continuous Integration Tools(JENKINS)** : This module covers the fundamentals of continuous integration, including the installation of a Jenkins environment, setting up a master and slave configuration, managing plugins, creating Jenkins jobs, builds, and projects, deep diving into pipeline development, Maven integration and builds, integrating with source repositories, code quality and code coverage analysis, and automated deployments.
- **ConfigurationManagement (Ansible)** : This module covers the installation and configuration of Ansible, a popular open-source automation tool. The module provides an overview of Ansible and its documentation, inventory management, running ad-hoc commands, different variables in Ansible, writing playbooks, deep diving into Ansible roles, and Ansible facts and vaults for secure data management.
- **Containerization (Docker & Docker Swarm)** : This module covers container technologies, including a comparison of containers with virtualization. The module provides an overview of Docker architecture and workflow, installation and configuration of Docker Engine, Docker images and creating custom images, managing images and Docker Hub, container management commands, container networking and storage drivers, and creating a two-tier application using containers. The module also covers Docker file container volumes, setting up a Docker Swarm environment, managing a Swarm cluster, setting up UCP and managing the UCP dashboard, creating Docker services, and a deep dive into Docker Compose file. The module concludes with creating a Tomcat Java project on Docker Swarm.
- **Infra as code (Terraform)** : This module provides an introduction to Terraform, an open-source infrastructure as code tool that enables you to create, manage, and modify infrastructure as code with a high degree of automation and efficiency. The module covers installation and configuration of Terraform for use with AWS, writing Terraform scripts for building AWS infrastructure, creating reusable scripts, and implementing Terraform loops and if statements for more efficient infrastructure management.
- **Shell scripting (Shell)** : This module provides comprehensive training on shell scripting, covering shell variables, operators, and positional parameters, debugging, running, and scheduling shell scripts, working with background jobs, conditional statements, looping statements, here statements, arrays, case statements, and select statements. By the end of this module, learners will have a strong understanding of shell scripting, enabling them to automate common tasks and streamline their workflows.
- **Repository manager (Jfrog)** : This module provides comprehensive training on repository management using JFrog. The module covers the installation and integration

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of JFrog with Maven build, configuring the repository for build with JFrog, managing JFrog settings, JFrog plugins, and software release with JFrog staging. The training also emphasizes the importance of repository management in software development and provides practical experience with JFrog's tools for efficient repository management.

- **SonarQube** : This module provides training on SonarQube, a popular code quality management platform. The module covers installation, analyzing source code, plugin management, local and branch analysis, and Sonar API basics, allowing for a comprehensive understanding and utilization of the SonarQube platform.
- **Demo Pipeline creation** : This module provides a hands-on demonstration of CI/CD (Continuous Integration/Continuous Delivery) with Docker, integrating Git, Jenkins, and Docker. It also covers CI/CD with AWS instances, integrating Git, Jenkins, and Docker for seamless deployment and delivery of applications in the cloud.

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