

AWS Cloud

1. Introduction to AWS

- AWS Global Infrastructure
- AWS Regions & Availability Zones
- AWS Shared Responsibility Model
- Identity and Access Management (IAM)
- AWS Pricing Models & Cost Management

2. Compute Services

- Amazon EC2: Instances, AMIs, and Security Groups
- Auto Scaling & Load Balancing (ALB, NLB, ELB)
- AWS Lambda & Serverless Computing
- Elastic Beanstalk: Application Deployment
- Amazon Lightsail: Simple Cloud Hosting

3. Storage Services

- Amazon S3: Buckets, Objects, and Versioning
- S3 Lifecycle Policies & Glacier for Archiving
- Amazon EBS: Volumes & Snapshots
- Amazon EFS: Managed File Storage
- AWS Storage Gateway

4. Networking & Content Delivery

- Amazon VPC: Subnets, Route Tables, and Gateways
- Elastic Load Balancing & Auto Scaling in VPC
- Amazon Route 53: DNS Management & Domain Registration
- AWS Direct Connect & VPN
- Amazon CloudFront: Content Delivery Network

5. Database Services

- Amazon RDS: Multi-AZ & Read Replicas
- Amazon DynamoDB: NoSQL Database
- Amazon Aurora: High-Performance Managed Database
- Amazon Redshift: Data Warehousing
- Database Migration Service (DMS)

6. Security & Identity

- IAM Best Practices
- AWS Key Management Service (KMS)
- AWS Secrets Manager & Systems Manager Parameter Store
- Amazon Cognito: User Authentication & Authorization
- AWS WAF & Shield: Protecting Applications

7. Monitoring & Management

- Amazon CloudWatch: Metrics, Alarms, and Logs
- AWS CloudTrail: Auditing & Logging

- AWS Config: Resource Inventory & Configuration Management
- AWS Systems Manager: Automation & Patching
- AWS Trusted Advisor & Security Hub

8. Automation & Orchestration

- AWS CloudFormation: Infrastructure as Code
- AWS OpsWorks: Configuration Management
- AWS Elastic Beanstalk: Deployment Automation
- AWS CodePipeline: Continuous Delivery Pipeline
- AWS CodeDeploy: Automated Deployment

9. Big Data & Analytics

- Amazon EMR: Big Data Processing with Hadoop, Spark
- Amazon Kinesis: Real-Time Data Streaming
- Amazon Athena: Querying S3 Data with SQL
- AWS Glue: Data Cataloging & ETL
- Amazon QuickSight: Business Intelligence

10. Machine Learning & AI

- Amazon SageMaker: Model Training & Deployment
- AWS Rekognition: Image and Video Analysis
- Amazon Polly: Text-to-Speech
- Amazon Lex: Conversational Interfaces
- AWS Lambda with AI Services Integration

DevOps Tools

1. Introduction to DevOps

- DevOps Principles & Practices
- DevOps Culture: Collaboration & Communication
- Continuous Integration & Continuous Delivery (CI/CD)
- Infrastructure as Code (IaC) Principles
- DevOps Tools & Technologies Overview

2. Version Control with Git

- Git Fundamentals & Advanced Commands
- Branching Strategies (Git Flow, Trunk-Based)
- GitHub/GitLab for Collaboration
- Managing Large Repositories with Git LFS
- Integrating Git with CI/CD Pipelines

3. CI/CD with Jenkins

- Jenkins Installation & Configuration
- Pipeline as Code with Jenkinsfile
- Jenkins Plugins for CI/CD
- Automated Testing & Reporting in Jenkins
- Integrating Jenkins with AWS Services

4. Containerization with Docker

- Docker Architecture & Components
- Building & Managing Docker Images
- Docker Compose for Multi-Container Applications
- Docker Networking & Storage
- Docker Security Best Practices

5. Container Orchestration with Kubernetes

- Kubernetes Architecture & Components
- Deploying Kubernetes Clusters on AWS (EKS)
- Kubernetes Networking (Services, Ingress)
- Helm Charts for Kubernetes Application Deployment
- Kubernetes Monitoring & Logging with Prometheus & Grafana

6. Infrastructure as Code (IaC)

- AWS CloudFormation: Stacks & Templates
- Terraform: Multi-Cloud IaC
- Advanced Terraform Modules & State Management
- Ansible: Configuration Management & Provisioning
- Chef/Puppet: Infrastructure Automation

7. Continuous Integration/Continuous Deployment (CI/CD)

- AWS CodePipeline: Automated CI/CD
- AWS CodeBuild: Build Automation
- AWS CodeDeploy: Deploying Applications
- Integration with Jenkins, GitLab CI, or CircleCI
- Automated Rollbacks & Blue/Green Deployments

8. Monitoring & Logging

- Prometheus & Grafana for Monitoring
- ELK Stack (Elasticsearch, Logstash, Kibana) for Logging
- AWS CloudWatch Logs & Metrics
- AWS X-Ray for Distributed Tracing
- Alerting & Incident Management with PagerDuty

9. Security & Compliance

- Securing AWS Infrastructure (IAM, VPC Security)
- DevSecOps: Integrating Security into CI/CD
- Automated Security Testing with OWASP ZAP
- AWS Security Hub & GuardDuty
- Compliance Automation with AWS Config & CloudTrail

10. Advanced Automation

- Automating Infrastructure with AWS Lambda
- ChatOps: Integrating Slack with Jenkins & AWS
- Automated Scaling & Cost Management
- Advanced Scripting with Python & Boto3

Flat No: 506,5th Floor, Nilgiri Block, Aditya Enclave, Ameerpet ,Hyd -5000038.

Contact: +91 9032734343, Mail: info@vritsol.com www.vritsol.com



AWS / DEVOPS

Project Work & Real-World Scenarios

- End-to-End CI/CD Pipeline on AWS with Jenkins, Docker, and Kubernetes
- Multi-Region, Multi-AZ Deployment & Disaster Recovery
- Advanced Security Practices & Compliance Automation
- Real-Time Monitoring & Alerting for Large-Scale Applications