DevOpsSchool
Lets Learn, Share & Practice DevOps

Day - 1

- **Introduction to Cloud SQL**
  - Overview of Cloud SQL features and benefits
  - Supported database engines (MySQL, PostgreSQL, SQL Server)
  - Comparison with traditional on-premises databases
  - Getting Started with Cloud SQL
- **Creating a Cloud SQL instance**
  - Configuring database parameters and settings
  - Connecting to the database using standard tools or APIs
  - Managing Cloud SQL Instances
- **Scaling up and down (vertical scaling)**
  - Configuring high availability and replication
  - Monitoring performance and optimizing queries

Day - 2

- **Data Management in Cloud SQL**
  - Creating and managing databases and tables
  - Importing and exporting data
  - Backing up and restoring databases
- **Security and Access Control**
  - Setting up firewall rules and network access
  - Managing user accounts and roles
  - Implementing encryption at rest and in transit
- **Performance Optimization and Scalability**
  - Indexing strategies and query optimization
  - Using read replicas and sharding for scalability
  - Caching techniques and query caching

Day - 3

- **Automation and DevOps with Cloud SQL**
  - Automating database deployments and updates
  - Integrating with deployment pipelines (CI/CD)
  - Infrastructure as code with Cloud SQL
- **Monitoring, Logging, and Alerting**
  - Monitoring database performance and health
  - Setting up logs and reviewing logs
  - Configuring alerts and notifications
- **Best Practices and Advanced Topics**
  - Designing efficient database schemas
  - Advanced SQL techniques and stored procedures
  - Optimizing database performance for specific workloads