VEDITHTECH

CLOUD INFRASTRUCTURE:

ARCHITECHTING WITH GOOGLE COMPUTE ENGINE

Course Outline

The course includes presentations, demonstrations, and hands-on labs.

Module 1: Introduction to Google Cloud Platform

Google Cloud Platform (GCP) Infrastructure
Using GCP
Lab: Console and Cloud Shell
Demo: Projects
Lab: Infrastructure Preview

Module 2: Virtual Networks

Virtual Private Cloud (VPC), Projects, Networks, Subnetworks, IP addresses, Routes, Firewall rules
Subnetworks for resource management instead of physical network topology
Lab: Virtual Networking
Lab: Bastion Host

Module 3: Virtual Machines

Compute Engine
Lab: Creating Virtual Machines
Compute options (vCPU and Memory)
Images
Common Compute Engine actions
Lab: Working with Virtual Machines

Module 4: Cloud IAM

Organizations, Roles, Members, Service accounts, Cloud IAM best practices
Lab: Cloud IAM

Module 5: Data Storage Services

Cloud Storage
Lab: Cloud Storage
Cloud SQL
Lab: Cloud SQL
Cloud Spanner, Cloud Datastore
Lab: Cloud Datastore
Cloud Bigtable

Module 6: Resource Management

Cloud Resource Manager, Quotas, Labels, Names, Billing
Demo: Billing Administration
Lab: Examining Billing Data with BigQuery

Module 7: Resource Monitoring

Stackdriver, Monitoring
Lab: Resource Monitoring (Stackdriver)
Logging, Error Reporting, Tracing, Debugging
Lab: Error Reporting and Debugging (Stackdriver)

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Key Benfits

Key Benfits of storage Administration

Pre Requisties

Pre Requisties of Netappp storage

course content

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ARCHITECTING WITH GOOGLE CLOUD PLATFORM DESIGN AND PROCESS

ARCHITECTING WITH GOOGLE CLOUD PLATFORM DESIGN AND PROCESS

1. Defining the Service

- Design in this class.
- State and solution.
- Measurement.
- Gathering requirements, SLOs, SLAs, and SLIs (key performance indicators).

2. Business-logic layer design

- Microservices architecture.
- GCP 12-factor support.
- Mapping compute needs to Google Cloud Platform processing services.
- Compute system provisioning

3. Data layer design

- Classifying and characterizing data.
- Data ingest and data migration.
- Identification of storage needs and mapping to Google Cloud Platform storage systems.

4. Network layer design

- Network edge configuration.
- Network configuration for data transfer within the service, including load balancing and network location.
- Network integration with other environments, including on premises and multi-cloud.

5. Design for resiliency, scalability, and disaster recovery

- Failure due to loss of resources.
- Failure due to overload.

- Strategies for coping with failure.
- Business continuity and disaster recovery, including restore strategy and data lifecycle management.
- Scalable and resilient design.

6. Design for security

- Google Cloud Platform security.
- Network access control and firewalls.
- Protections against denial of service.
- Resource sharing and isolation.
- Data encryption and key management.
- Identity access and auditing.

7. Capacity planning and cost optimization

- Capacity planning.
- Pricing.

8. Deployment, monitoring and alerting, and incident response

- Deployment.
- Monitoring and alerting.
- Incident response.