

# Cloud Architect

## **1.Introduction to Google Cloud Platform (GCP)**

- 1.1 Overview of GCP services and products.
- 1.2 GCP resource hierarchy and organization.

## **2.Designing and Planning a GCP Solution**

- 2.1 Defining business and technical requirements.
- 2.2 Creating a cloud strategy and migration plan.
- 2.3 Best practices for designing scalable and highly available solutions.

## **3.Compute and Storage Services**

- 3.1 Understanding virtual machines and instance types.
- 3.2 Working with Google Compute Engine.
- 3.3 Overview of Google Cloud Storage services.

## **4.Networking**

- 4.1 VPC (Virtual Private Cloud) design
- 4.2 Load balancing solutions.
- 4.3 Network security and firewall rules.

## **5.Data Storage and Databases**

- 5.1 Google Cloud Storage options.
- 5.2 Relational and NoSQL databases on GCP.
- 5.3 Data storage and backup strategies.



## **6.Security and Identity**

- 6.1 Identity and Access Management (IAM) on GCP.
- 6.2 Security best practices and compliance.
- 6.3 Data encryption and key management.

## **7.Deployment and Monitoring**

- 7.1 Containerization with Kubernetes Engine.
- 7.2 Deployment strategies and CI/CD pipelines.
- 7.3 Monitoring, logging, and debugging tools on GCP.

## **8.Scaling and Performance Optimization**

- 8.1 Autoscaling and load balancing.
- 8.2 Performance tuning and optimization techniques.
- 8.3 Cost management and billing on GCP.

## **9.Hybrid and Multi-Cloud Solutions**

- 9.1 Implementing hybrid cloud architectures.
- 9.1 Interconnecting on-premises and cloud environments.
- 9.1 Multi-cloud considerations.

## **10.Case Studies and Real-World Scenarios**

- 10.1 Practical examples and case studies of architecting solutions on GCP.
- 10.2 Examining real-world use cases and best practices.

## **11.Preparation for the Professional Cloud Architect Exam**

- 1.1 Tips and strategies for preparing for and



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passing the Google Cloud Professional Cloud  
Architect certification exam.



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