



Sherdil IT Academy



Google Associate Cloud Engineer Google Professional Cloud Architect

S.No	Content	Remarks
1	Introduction & Overview: - Google Associate engineer & professional architect exam - Google Cloud certification Roadmap & pricing - Basics of Cloud Computing - Google Cloud Services in details - Signup & login Google cloud account - Billing, Projects & IAM Overview - Pricing Calculator	Theory / Lab
2	Billing, IAM & Projects - Signup & login Google cloud account - Use GCP Project 1st time - Use Google cloud Pricing calculator - Implement labels & quotas - Link billing account with multiple projects - Working with IAM, IAM groups, Roles & service accounts	Theory / Lab
3	Google Cloud Interfaces & deployment tools - Install, configure & working on Cloud SDK & cloud shell - Configure Cloud pub/sub & get message using cloud SDK - Enabling Cloud API service within the project	Theory / Lab
4	Google Compute Engine (GCE) Overview - Deploying windows & Linux VMs using Google Compute Engine (GCE) - Custom Images & snapshots - Disks & VM Storage - Startup & shutdown scripts - RDP & SSH login using multiple methods - Public & private subnet VM - Bastion host & private VM accessibility - Cloud NAT testing with private VM - Compute Engine VM types - About Preemptible VMs	Theory / Lab
5	Cloud storage Overview - Create & configure cloud storage (storage types) - Deploy static website & move data between storage bucket - Assign the user to access the bucket object - Object versioning - Bucket & object encryption - Object change notification - Audit logging	Theory / Lab

	● Lifecycle policies	
6	GCP Virtual network & shared VPC Overview ● Create & configure VPC with multi Region Subnets ● Configuring NAT Gateway using the private subnet ● Deployment of custom routes & firewall rules ● Internal Only private IP, Google private access, Static external & private IP ● Dynamic routing & Network Services tiers ● VPC Peering ● Cloud Router ● Cloud CDN ● Cloud DNS ● Cloud VPN Demo (AWS & GCP Hybrid connectivity)	Theory / Lab
7	Load Balancer & AutoScaling Overview ● Deployment of Load balancer & Autoscaling ● Load balancer health check & content-aware ● Load distribution algorithm ● Load balancer session affinity ● Autoscaler & Instance Group Updates ● Load balancer types ● TCP/SSL based load balancers ● Regional Internal & external load balancer ● Attached Autoscaling with Loadbalancer backend service	Theory / Lab
8	Stack driver & monitoring Overview ● Google Stack driver logging ● Trace ● Error reporting ● Debug ● System uptime ● Alert configuration with Email & SMS	Theory / Lab
9	GCP databases Overview ● About GCP databases ● My SQL & PostgreSQL deployments ● Backup & restore ● High Availability & read replica ● Logging & PointinTime recovery ● Cloud Spanner Feature, architecture & Performance	Theory / Lab
10	DigData Overview ● Cloud big query ● Cloud data proc: architectural & storage components ● Cloud data proc: jobs & workflows ● Cloud data proc: pricing ● Cloud Bigtable: Migration from HBASE ● Cloud Bigtable: Schema designing, application profile & performance ● Cloud Dataflow: Basic & concepts ● Cloud dataflow vs Data proc ● Cloud Datalab ● Cloud pub/sub	Theory / Lab
11	Google App Engine ● Services, version & instances ● Standard & flexible environment ● App engine app.yaml ● App engine pricing ● Application deployment using a flexible environment ● Traffic splitting	Theory / Lab

	● App engine Security scanner ● How to avoid cloud cost using app engine	
12	Google Kubernetes Engine (GKE) ● Fundamentals & overview ● Kubernetes Engine Cluster - Master & Nodes ● POD & Service ● Deployments ● Node Pools ● Auto Scaling ● Regional and Multizone Clusters ● GPU's Support ● Labels & Selectors ● Load Balancing ● Local SSD Support ● Node Images ● Node Repair ● Networking ● Other Concepts ● Other Concepts ● Anthos fundamentals	
13	Google Cloud Function & Cloud Run	Theory / Lab
14	Deployment of Wordpress Vm using cloud launcher	Theory / Lab
15	Application deployment using Deployment Manager (IAC)	Theory / Lab
16	Google AI & Machine Learning models	Theory
17	Case Studies Overview ● Mountkirk Games ● Dress4Win ● TerramEarth	Theory
18	Overview ● Storage Transfer Service ● Data Migration best practice ● Cloud migration ● AWS to GCP migration ● DR concepts ● Cost optimization ● Backup & recovery Method ● Security Method in GCP ● Legal Compliance & Audits	Theory
19	Course Summary & exam Preparation	Theory