Architecting with Google Cloud: Design and Process

Category: Cloud Platforms | **Vendor:** Google Cloud

Duration: 16.00 hours (2 days) **13.0 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course Overview

This course features a combination of lectures, design activities, and hands-on labs to show you how to use proven design patterns on Google Cloud to build highly reliable and efficient solutions and operate deployments that are highly available and cost-effective. This course was created for those who have already completed the Architecting with Google Compute Engine or Architecting with Google Kubernetes Engine course.

About This Course

This course features a combination of lectures, design activities, and hands-on labs to show you how to use proven design patterns on Google Cloud to build highly reliable and efficient solutions and operate deployments that are highly available and cost-effective. This course was created for those who have already completed the Architecting with Google Compute Engine or Architecting with Google Kubernetes Engine course.

Who Should Attend

- Cloud Solutions Architects, Site Reliability Engineers, Systems Operations professionals, DevOps Engineers, IT managers
- Individuals using Google Cloud to create new solutions or to integrate existing systems, application environments, and infrastructure with Google Cloud

Prerequisites & Entry Requirements

General Prerequisites:

- Have completed Architecting with Google Compute Engine (AGCE), or have equivalent experience
- Have basic proficiency with command-line tools and Linux operating system environments
- Have systems operations experience, including deploying and managing applications, either on-premises or in a public cloud environment

Learning Outcomes

Upon successful completion of this course, participants will be able to:

- Apply a tool set of questions, techniques and design considerations
- Define application requirements and express them objectively as KPIs, SLO's and SLI's
- Decompose application requirements to find the right microservice boundaries
- Leverage Google Cloud developer tools to set up modern, automated deployment pipelines
- Choose the appropriate Google Cloud Storage services based on application requirements
- Discuss Google Cloud network architectures, including hybrid architectures
- Implement reliable, scalable, resilient applications balancing key performance metrics with cost
- Choose the right Google Cloud deployment services for your applications
- Secure cloud applications, data and infrastructure
- Monitor service level objectives and costs using Cloud Monitoring

Detailed Course Outline

Module 1: Defining the Service

- Describe users in terms of roles and personas
- Evaluate KPIs using SLOs and SLIs
- Determine the quality of application requirements using SMART criteria

Module 2: Microservice Design and Architecture

- Decompose monolithic applications into microservices
- Recognize appropriate microservice boundaries
- Design consistent, standard RESTful service APIs
- Identify the 12-factor best practices for implementing services

Module 3: DevOps Automation

- Discuss the automation of service deployment using CI/CD pipelines
- Explain how to leverage Cloud Source Repositories for source and version control
- Automate builds with Cloud Build and build triggers
- Manage container images with Container Registry

Module 4: Choosing Storage Solutions

- Identify the use cases for Spanner
- Identify the use cases for Cloud SQL
- Identify the use cases for Firestore
- Identify the use cases for Memorystore

Module 5: Google Cloud and Hybrid Network Architecture

- Discuss the design of VPC networks to optimize for cost, security, and performance
- Describe how global and regional load balancers provide access to services
- Connect networks using peering and VPNs
- Define hybrid networks between Google Cloud and on-premises data centers using Cloud Interconnect

Module 6: Deploying Applications to Google Cloud

- Choose the appropriate Google Cloud deployment service for your applications
- Configure scalable, resilient infrastructure using Instance Templates and Groups
- Orchestrate microservice deployments using Kubernetes and GKE
- Leverage App Engine for a completely automated platform as a service (PaaS)

Module 7: Designing Reliable Systems

- Discuss the design of services to meet requirements for availability, durability, and scalability
- Identify the failures to be avoided to implement a fault-tolerant system

Module 8: Security

- Identify the best practices for designing secure systems
- Discuss the use of organizational policies and folders to simplify cloud governance
- Identify Google Cloud services that can be leveraged for access management
- Identify Google Cloud services that can be leveraged to mitigate DDoS attacks

Module 9: Maintenance and Monitoring

- Discuss different ways to manage new service versions
- Describe how to forecast, monitor, and optimize service costs
- Observe if your services are meeting their SLOs using Cloud Monitoring and Dashboards
- Use Uptime Checks to determine service availability
- Respond to service outages using Cloud Monitoring Alerts, Designing Reliable Systems, Maintenance and Monitoring, Microservice Design and Architecture, Defining the Service, Google Cloud and Hybrid Network Architecture, Deploying Applications to Google Cloud, Choosing Storage Solutions, DevOps Automation

Skills You Will Learn:

- Apply a tool set of questions, techniques and design considerations
- Define application requirements and express them objectively as KPIs, SLO's and SLI's
- Decompose application requirements to find the right microservice boundaries
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Frequently Asked Questions

Q: What delivery options are available for Architecting with Google Cloud: Design and Process?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: How many CPD hours does this course provide?

The 2-day Architecting with Google Cloud: Design and Process course provides up to 13.0 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Architecting with Google Cloud: Design and Process training?

The training takes place over 2 day(s), with each day lasting approximately 16.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Architecting with Google Cloud: Design and Process?

Yes, we provide corporate training, dedicated training, and closed classes for Architecting with Google Cloud: Design and Process. Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: Architecting with Google Cloud: Design and Process, Architecture & Engineering, AGCP-DP, Architecting with Google Cloud Design and Process, Google Cloud, vILT

Q: Why choose Nexus Human for Architecting with Google Cloud: Design and Process?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Architecting with Google Cloud: Design and Process training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

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