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NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » Google Cloud Computing Foundations
(course)



Course outline

How does an NPTEL online course work?

Week 0:
Welcome to the Course

Week 1: What's the cloud anyway? Start with a solid platform

- Introduction to Cloud
(unit?unit=19&lesson=20)
- Cloud Computing
(unit?unit=19&lesson=21)
- Cloud vs Traditional Architecture

Assignment 1

The due date for submitting this assignment has passed.

Due on 2020-09-30, 23:59 IST.

Assignment submitted on 2020-09-30, 15:23 IST

1) What type of service best describes Google Kubernetes Engine?

1 point

- ☐ IAAS
- ☒ Hybrid
- ☐ PAAS
- ☐ SAAS

Yes, the answer is correct.

Score: 1

Feedback:

GKE is a hybrid service. On one hand, the infrastructure is managed for Kubernetes. But you still have to run Kubernetes to build your applications

Accepted Answers:

Hybrid

2) The Google Cloud Platform (GCP) hierarchy helps you manage resources across multiple departments and multiple teams within an organization.

1 point

Which of the following is at the lowest level of this hierarchy?

- ☐ Organization
- ☐ Folder
- ☒ Resource

(unit?unit=19&lesson=22)

● Iaas, PaaS and SaaS
(unit?unit=19&lesson=23)

● Google Cloud Architecture
(unit?unit=19&lesson=24)

● Cloud Computing Recap Quiz
(unit?unit=19&lesson=25)

● Summary - Cloud Computing
(unit?unit=19&lesson=26)

● Introduction - Start with a Solid Platform
(unit?unit=19&lesson=27)

● The GCP Console
(unit?unit=19&lesson=28)

● Understanding Projects
(unit?unit=19&lesson=29)

● Billing in GCP
(unit?unit=19&lesson=30)

● Install and Configure Cloud SDK
(unit?unit=19&lesson=31)

● Use Cloud Shell [With Labs]
(unit?unit=19&lesson=32)

☐ Project

Yes, the answer is correct.

Score: 1

Feedback:

At the lowest level, resources are the fundamental components that make up all Google Cloud services. All these lower level resources can only be parented by projects, which represent the first grouping mechanism of the Google Cloud resource hierarchy.

Accepted Answers:

Resource

3) Projects form part of the Google Cloud Platform (GCP) resources hierarchy. Which of the following is true concerning projects? **1 point**

- ☐ GCP Project IDs do not need to be unique
- ☐ All resources must be associated with a project.
- ☒ You can nest projects inside projects
- ☐ Folders are nested under the project

No, the answer is incorrect.

Score: 0

Feedback:

The GCP resources you use, no matter where they reside, must belong to a project.

Accepted Answers:

All resources must be associated with a project.

4) Cloud Identity and Access Management (Cloud IAM) allows you to manage privileges. What do these privileges apply to? **1 point**

- ☐ Application
- ☒ Google Cloud Platform Resources
- ☐ Applications, GCP, and Operating Systems
- ☐ Operating System

Yes, the answer is correct.

Score: 1

Feedback:

IAM only applies to the GCP resources you use. Application and operating system security must be handled separately

Accepted Answers:

Google Cloud Platform Resources

5) Google Cloud provides resources in multi-regions, regions, and zones. What best describes a zone? **1 point**

- ☐ An edge location
- ☐ Geographic location to leverage services.
- ☐ A point of presence (PoP).
- ☒ One or more data centers

Yes, the answer is correct.

Score: 1

Feedback:

● GCP APIs
(unit?unit=19&lesson=33)

● Cloud Console
Mobile App
(unit?unit=19&lesson=34)

● Summary
(unit?unit=19&lesson=36)

○ Google Cloud
Computing
Foundations
Course : Week
1 Feedback
Form
(unit?unit=19&lesson=37)

● Quiz :
Assignment 1
(assessment?name=126)

**Week 2: Use
GCP to build
your apps**

**Week 3 : Where
do I store this
Stuff?**

**Week 4: There's
an API for that!
You can't secure
the Cloud right?**

**Week 5 : It helps
to Network**

**Week 6 : It helps
to Network
(continued)**

**Week 7 : Let
Google keep an
eye on things.
You have the
data, but what
are you doing**

Regions are made up of zones. Each Region will have at least 3 data centers or zones to provide high availability

Accepted Answers:

One or more data centers

6) Google Cloud Platform (GCP) provides a variety of service choices. Which of the following services is infrastructure as a service (IaaS)? **1 point**

- ☒ Google Compute Engine
☐ Google Kubernetes Engine
☐ App Engine
☐ Google Cloud Function

Yes, the answer is correct.

Score: 1

Feedback:

Google Compute Engine is the correct answer. With IaaS, only the underlying architecture is provided. The user still has to select and care for an operating system and install the required applications

Accepted Answers:

Google Compute Engine

7) Which of the following best describes the major advantages GCP has over other cloud providers? **1 point**

- ☐ Google uses satellite links as a way of interconnecting Regions, Zones, and POPS.
☒ Google owns one of the largest networks in the world. All regions and zones are connected on the same network
☐ Google leases fiber from multiple vendors. In the event of a vendor's fiber failing, another vendor's network can be used as a backup.
☐ Google leverages traditional networking gear from commercial vendors

Yes, the answer is correct.

Score: 1

Feedback:

Google owns one of the worlds largest networks with 100,000s of kilometers of fiber and over 100 POPs all interconnecting regions and zones. The network also leverages multiple intercontinental fiber connections

Accepted Answers:

Google owns one of the largest networks in the world. All regions and zones are connected on the same network

8) A zone is a deployment area for Google Cloud resources within a region. Which of the following is a zonal service? **1 point**

- ☒ Cloud Datastore
☐ HTTPS Load Balancer
☐ Virtual Private Networks
☐ Google Cloud Virtual machine

No, the answer is incorrect.

Score: 0

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Feedback:

Google Cloud Virtual Machine is an example of a service that is zonal. HTTPS load balancers and Virtual Private networks are global, and Cloud Datastore is regional service.

Accepted Answers:

Google Cloud Virtual machine

9) What does it mean for a system to be elastic?

1 point

- ☐ The system is multi-cloud.
- ☒ The system can add and remove resources based on need.
- ☐ The system can be moved from region to region.
- ☐ The system can bounce back after an outage.

Yes, the answer is correct.

Score: 1

Feedback:

Elastic systems can add or remove resources based on performance needs.

Accepted Answers:

The system can add and remove resources based on need.

10) What is the purpose of a folder?

1 point

- ☐ Used to organize users
- ☐ Used to organize resources.
- ☒ Used to organize projects
- ☐ Folders are not part of the hierarchy.

Yes, the answer is correct.

Score: 1

Feedback:

Folders are used to organize projects. You can put projects or other folders into a folder.

Accepted Answers:

Used to organize projects

11) True or False. Using Cloud Shell, you can manage your projects and resources easily without having to install the Cloud SDK **1 point**

- ☒ True
- ☐ False

Yes, the answer is correct.

Score: 1

Feedback:

The answer is True. Using Cloud Shell, you can manage your projects and resources easily without having to install the Cloud SDK or other tools locally.

Accepted Answers:

True

12) Which command line tool can be used to manage Cloud Storage?

1 point

- ☐ gcloud
- ☐ kubectl
- ☒ gsutil

☐ bq

Yes, the answer is correct.

Score: 1

Feedback:

The gsutil CLI tool is used for managing Cloud Storage

Accepted Answers:

gsutil

13) How would you configure the Cloud SDK to work on your laptop?

1 point

- ☐ Edit the .profile file of the SDK.
- ☐ Download the config file from <https://cloud.google.com>
- ☒ Run the gcloud init command.
- ☐ Sync your laptop with Cloud Shell.

Yes, the answer is correct.

Score: 1

Feedback:

The gcloud init command sets your login, your default project, and your default region and zone

Accepted Answers:

Run the gcloud init command.

14) Every GCP service you use is associated with a project. Which of the following statements regarding projects are correct?

1 point

- ☒ A project cannot be restored once deleted.
- ☐ Each project is a separate account, and each resource belongs to exactly one project
- ☒ Projects are billed and managed collectively.
- ☒ Projects are the basis for enabling and using GCP services.
- ☐ Projects have a single owner

No, the answer is incorrect.

Score: 0

Feedback:

Projects are the basis for enabling and using GCP services, like managing APIs, enabling billing, adding and removing collaborators, and enabling other Google services. Each project is a separate account, and each resource belongs to exactly one. Projects can have different owners and users. They're billed separately, and they're managed separately

Accepted Answers:

Each project is a separate account, and each resource belongs to exactly one project

Projects are the basis for enabling and using GCP services.

15) True or False. Cloud Shell code editor is one of the developer tools built into the GCP console

1 point

- ☒ True
- ☐ False

Yes, the answer is correct.

Score: 1

Feedback:

The answer is True. Cloud Shell, Cloud Shell code editor, and Cloud Source Repositories are all

examples of developer tools built into the GCP console

Accepted Answers:

True

16) In what format will a majority of the APIs return data in?

1 point

- ☐ XML
- ☐ YAML
- ☒ JSON
- ☐ YAML

Yes, the answer is correct.

Score: 1

Feedback:

The format an API will return data in is JSON.

Accepted Answers:

JSON

17) What best describes the purpose of quotas?

1 point

- ☒ Configuration used to prevent over consumption due to malicious attacks.
- ☒ Configuration used to prevent billing surprises
- ☐ Quotas are used to send billing alerts
- ☐ Configuration used by Google to prevent building large systems
- ☐ Quotas can automatically build infrastructure based on Stackdriver metrics.

Yes, the answer is correct.

Score: 1

Feedback:

Google Cloud Platform (GCP) enforces quotas on resource usage, setting a hard limit on how much of a particular GCP resource a project can use. Quotas are designed to help prevent billing surprises and to prevent overconsumption of resources due to malicious attacks.

Accepted Answers:

Configuration used to prevent over consumption due to malicious attacks.

Configuration used to prevent billing surprises

18) How would you configure billing notifications in GCP?

1 point

- ☐ Set up a billing alert in Stackdriver
- ☐ Use Cloud Functions to fire off an email with daily budget totals
- ☐ Enable a script using cron to kick off when a threshold is reached
- ☒ Configure budgets and alerts.

Yes, the answer is correct.

Score: 1

Feedback:

To be notified when costs approach your budget limit, you can define a budget and create an alert.

Accepted Answers:

Configure budgets and alerts.

19) True or False. s3config is a command-line option for the Cloud SDK?

1 point

- ☐ True
☒ False

Yes, the answer is correct.

Score: 1

Feedback:

The answer is False. s3config is not a command-line option. gcloud (all), gsutil (Cloud Storage), and bq (BigQuery) are the command-line options that are part of the Cloud SDK.

Accepted Answers:

False

20) How would you test a Google API and learn how it works?

1 point

- ☐ Use the console to get the directions on how to build the API by service
☒ Use the APIs Explorer that is part of the GCP console.
☐ Use the gcloud command in the Cloud SDK.
☐ Use the help files in Cloud Shell

Yes, the answer is correct.

Score: 1

Feedback:

APIs Explorer helps you learn about the APIs interactively. It lets you see what APIs are available, in what versions, as well as how they work

Accepted Answers:

Use the APIs Explorer that is part of the GCP console.