### ****1. What is cloud computing?****

Let’s start with the most basic question of all. [Cloud computing](https://intellipaat.com/blog/what-is-cloud-computing/" \t "https://intellipaat.com/blog/interview-question/google-cloud-platform-interview-questions/_blank) is the computational power, which is on the cloud at all times. It uses the Internet as its chosen method of delivery. The service of this technology is global and not limited by geographical restrictions.

### ****2. What is cloud?****

You can simply state that cloud is a combination of network, storage, interface, and hardware that offers cloud computing as a service. A cloud service provider takes care of the cloud and IT assets of the company that is offering the cloud services.

### ****3. What are the main features of cloud services?****

Cloud service and cloud computing as a whole have a multitude of features, especially the ease of access and management of commercial software from anywhere around the globe.

1. Easy centralization of all management related to the software to a central web service
2. The design and development of web applications capable of handling multiple clients from anywhere around the world simultaneously
3. The elimination of software upgrade downloads by centralizing and automating the updating process

### ****4. What is Google Cloud Platform?****

Google Cloud Platform or GCP is a cloud platform that has been developed by Google. It offers access to its cloud systems and computing services. It includes a number of services under the compute, database, storage, networking, and migration domains of cloud computing.

### ****5. What are the advantages of using cloud computing?****

First, let us compare [Google Cloud with AWS Cloud](https://intellipaat.com/blog/aws-vs-google-cloud/" \t "https://intellipaat.com/blog/interview-question/google-cloud-platform-interview-questions/_blank):

|  |  |  |
| --- | --- | --- |
| Criteria | Google Cloud | AWS |
| Data Centers | Relatively less | Large number |
| Market Position | In top three | Market leader |
| Entry in cloud | Late entrant | Very early entrant |

The [advantages of using cloud computing](https://intellipaat.com/blog/tutorial/amazon-web-services-aws-tutorial/advantages-and-disadvantages-of-cloud-computing/" \t "https://intellipaat.com/blog/interview-question/google-cloud-platform-interview-questions/_blank) are many. Here we will discuss some of the most important advantages of the cloud. You will be able to store and have a backup of the data anytime, it has powerful server capabilities, improves productivity, cost-effectiveness and time saving, ability to get up and started in the shortest duration of time.

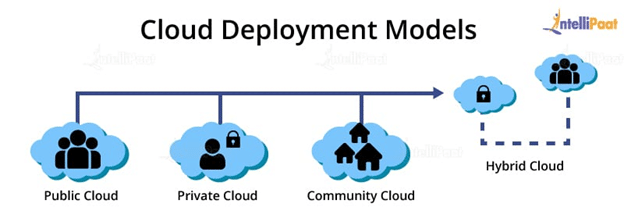
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### ****6. Mention platforms that are used for large-scale cloud computing?****

The platforms that are used for large-scale cloud computing are [Amazon Web Services](https://intellipaat.com/blog/what-is-amazon-web-services-aws/" \t "https://intellipaat.com/blog/interview-question/google-cloud-platform-interview-questions/_blank), [Azure](https://intellipaat.com/blog/tutorial/microsoft-azure-tutorial/" \t "https://intellipaat.com/blog/interview-question/google-cloud-platform-interview-questions/_blank), Google Cloud Platform, and more.

### ****7. What are the different models for deployment in cloud computing?****

The various deployment models in cloud computing are private, public, and hybrid cloud.



### ****8. How can a user gain from utility computing?****

Utility computing is the service wherein you get pay-as-you-go and on-demand services in which the provider offers to manage and operate the computing services and you can choose which services to access which are all deployed in the cloud.

### ****9. When you are transferring data, how do you ensure that it is secure?****

To ensure that the data which is being transported is secure, you should check the implemented encryption key and that there is no leak in the data.

### ****10. Describe the security aspects that the cloud offers?****

Some of the important security aspects that the cloud offers are as below:

* ****Access control****: it offers control to the users who can control the access to other users who are entering the cloud ecosystem
* ****Identity management****: this provides the authorization for the application services
* ****Authorization and authentication****: this security feature lets only the authenticated and authorized users access the applications and data.

### ****11. What are system integrators in Cloud Computing?****

The cloud can consist of multiple components that can be complex. The system integrator in the cloud is the strategy that provides the process of designing the cloud, integrating the various components for creating a hybrid or a private cloud network among other things.

****To learn more about GCP and have in-depth knowledge on the topic, take up the**[Google Cloud Certification Training](https://intellipaat.com/google-cloud-certification-architect-training/" \t "https://intellipaat.com/blog/interview-question/google-cloud-platform-interview-questions/_blank)**by Intellipaat.****

### ****12. What are the various components of the Google Cloud Platform?****

The various GCP components are:

* Google Compute Engine
* Google Cloud Container Engine
* Google Cloud Storage
* Google Cloud App Engine
* Google Cloud Dataflow
* Google Cloud Machine Learning Engine
* Google BigQuery Service
* Google Cloud Job Discovery
* Google Cloud Endpoints
* Google Cloud Test Lab

### ****13. What are the main advantages of using Google Cloud Platform?****

Google Cloud Platform is gaining popularity among cloud professionals as well as users for the advantages they offer over others :

* GCP offers competitive pricing
* Google Cloud servers allow access to information from anywhere
* GCP has an overall better performance and service compared to other hosting cloud services
* Google Cloud provides speedy and efficient server and security updates
* The security level of Google Cloud Platform is exemplary; the cloud platform and networks are secured and encrypted with various security measures.

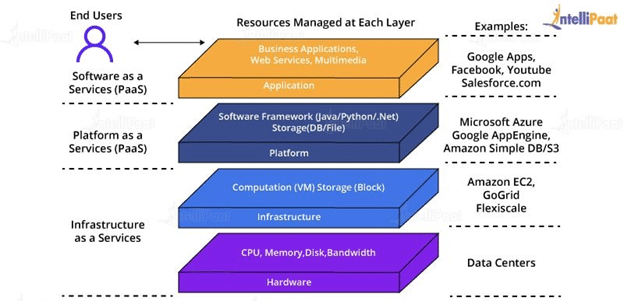
## **Career Transition**

### ****14. How does cloud computing provide on-demand functionality?****

As a technology, cloud computing was built on the foundation of providing functionality to all its users on-demand at any time and from anywhere. With the latest advancements and easy availability of applications like Google Cloud, it has achieved that goal.

A user on Google Cloud can view the files on the cloud on any device at any time from wherever they are as long as they are connected to the internet.

### ****15. What are the various layers in the cloud architecture?****

The different layers that constitute the cloud architecture are:  


* ****Physical layer:**** This constitutes the physical servers, network, and other aspects
* ****Infrastructure layer:**** This layer includes storage, virtualized layers, and so on
* ****Platform layer****: This includes the operating system, apps, and other aspects
* ****Application layer****: This is the layer that the end-user directly interacts with.

### ****16. What are the libraries and tools for cloud storage on GCP?****

JSON API and XML API are at the core level for the cloud storage on Google Cloud Platform. But along with these, Google also provides the following to interact with the cloud storage.

* **Google Cloud Platform Console** to perform basic operations on objects and buckets
* **Cloud Storage Client Libraries** that provides programming support for various languages
* **Gsutil Command-line Tool** provides a CLI for the cloud storage

There are also a number of third-party libraries and tools like Boto Library.

### ****17. What is “EUCALYPTUS” in the context of cloud computing?****

“EUCALYPTUS” stands for “Elastic Utility Computing Architecture for Linking Your Programs To Useful Systems”, which is an open-source cloud computing infrastructure that is used for deploying cloud clusters. Using the “[EUCALYPTUS](https://www.eucalyptus.cloud/" \t "https://intellipaat.com/blog/interview-question/google-cloud-platform-interview-questions/_blank)”, you can build public, private, and hybrid cloud platforms. You can even have your own data center in the cloud and this can be used to harness its functionality in your organization.

****Learn about the**[differences between AWS, Azure, and GCP](https://intellipaat.com/blog/aws-vs-azure-vs-google-cloud/" \t "https://intellipaat.com/blog/interview-question/google-cloud-platform-interview-questions/_blank)**in this blog by Intellipaat.****

### ****18. What is Google Compute Engine?****

Google Cloud Engine is the basic component of the Google Cloud Platform. It is an IaaS that provides flexible Windows and Linux-based virtual machines that are self-managed and hosted on the Google infrastructure. The virtual machines can run on local, durable storage options, and KVM.

For the purpose of control and configuration, Google Cloud Engine also includes REST-based API. It integrates with other GCP technologies (Google Cloud Storage, Google App Engine, Google BigQuery, etc.) that help extend its computational ability thus creating more complex and sophisticated applications.

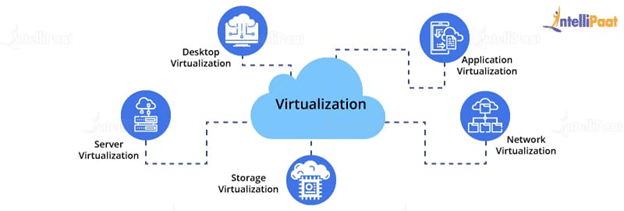
### ****19. What are the different methods for the authentication of Google Compute Engine API?****

There are different methods for the authentication of Google Compute Engine API. They are:

* Through client library
* Using OAuth 2.0
* Directly using an access token

### ****20. Why do you need the virtualization platform to implement the cloud?****

Virtualization lets you create virtual versions of the storage, operating systems, applications, networks, and so on. If you use the right virtualization then it helps you to augment your existing infrastructure. You are able to run multiple apps and operating systems on existing servers.

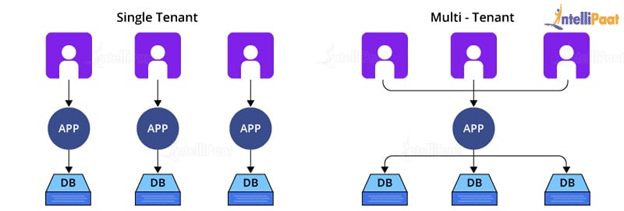


### ****21. What are some of the popular open-source cloud computing platforms?****

Some of the important open-source cloud computing platforms are as below

* OpenStack
* Cloud Foundry
* [Docker](https://intellipaat.com/blog/tutorial/devops-tutorial/docker-tutorial/" \t "https://intellipaat.com/blog/interview-question/google-cloud-platform-interview-questions/_blank)
* Apache Mesos
* KVM

### ****22. Explain what are the different modes of software as a service (SaaS)?****

The two most important types of software as a service are as below:  


* Single multi-tenancy: In this type of SaaS you have your own independent resources that you don’t share with anybody
* Fine grain multi-tenancy: In this type of SaaS deployment the resources are shared between multiple tenants even though the functionalities remain the same.

### ****23. What is the benefit of API in the cloud domain?****

Here we list the important benefits of API with respect to the cloud domain:

* You don’t have to write the complete program
* You can easily communicate between one application and another
* You can easily create applications and link them to the cloud services
* It seamlessly connects two applications in a secure manner.

Let’s move to the advanced section of Google Cloud Architect interview questions and answers.

## **Advanced GCP Interview Questions for Experienced**

### ****24. Mention what is the difference between elasticity and scalability in cloud computing?****

Scalability in the cloud is the way in which you increase the ability to service additional workloads either by adding new servers or accommodating them within the existing servers. Elasticity is the process by which you can either add or remove virtual machines depending on the requirement in order to avoid wastage of resources and reduce costs.

### ****25. What are the service accounts? How will you create one?****

This is one of the most common Google Cloud interview questions. Service accounts are the special accounts related to a project. They are used for the authorization of [Google Compute Engine](https://cloud.google.com/compute/docs" \t "https://intellipaat.com/blog/interview-question/google-cloud-platform-interview-questions/_blank) in order to be able to perform on behalf of the user thus receiving access to non-sensitive data.

There are different service accounts offered by Google but mainly, users prefer to use Google Cloud Platform Console and Google Compute Engine service accounts.

The user doesn’t need to create a service account manually. It is automatically created by the Compute Engine whenever a new instance is created. Google Compute Engine also specifies the scope of the service account for that particular instance when it is created.

### ****26. What are projects in the context of Google Cloud?****

Projects are the containers that organize all the Google Compute resources. They comprise the world of compartments and are not meant for resource sharing. Projects may have different users and owners.

### ****27. Suppose you have deleted your instance by mistake. Will you be able to retrieve it back? If yes, how?****

While It is a very simple question, it is based on a deep understanding of the Google cloud platform. The answer is no. It is not possible to retrieve the instances that have been deleted once. However, if it has been stopped, it can be retrieved by simply starting it again.

### ****28. What is Google BigQuery? What are the benefits of BigQuery for data warehouse practitioners?****

Google BigQuery is used as a data warehouse and stores all the analytical data in an organization. It organizes the data table into datasets.

Some of the benefits of BigQuery for the data warehouse practitioners are:

* BigQuery allocates query and storage resources depending on the requirement and usage. Therefore, it doesn’t require the provisioning of resources before usage.
* It can store data in different formats for efficient storage management. For example, Google’s distributed file system, proprietary format, proprietary columnar format, query access pattern, etc.
* It is fully maintained and managed without any downtime or hindrance.
* It provides backup and disaster recovery at a broader level. Users can easily undo changes and revert to a previous state without making a request for the backup recovery.

### ****29. What do you know about Google Cloud SDK?****

[Google Cloud SDK](https://cloud.google.com/sdk" \t "https://intellipaat.com/blog/interview-question/google-cloud-platform-interview-questions/_blank) (Software Development Kit) is a set of tools that are used in the management of applications and resources that are hosted on the Google Cloud Platform. It is comprised of the gcloud, gsutil, and bqcommand line tools.  
Google Cloud SDK runs only on specific platforms like Windows, Linux, and macOS and requires Python 2.7.x. Other specific tools in the kit may have additional requirements as well.

### ****30. What are the Google Cloud APIs? How can you access them?****

Google Cloud APIs are programmatic interfaces  that allow users to add the power of everything (from storage access to the image analysis based on machine learning) to Google Cloud-based applications.

#### **Accessing Google Cloud APIs**

Cloud APIs can be easily accessed with the client libraries from the server applications. A number of programming languages can be used to access Google Cloud APIs. One can use mobile applications via Firebase SDKs or through third-party clients. Google Cloud Platform Console Web UI or Google SDK command-line tools can also be used to access the Google Cloud APIs.

#### 1. What is Cloud Computing?

****Answer:****Being the very basic, this is one of the most common Google cloud interview questions and thus also one of the most frequently asked questions at the Google Cloud Computing interview process. The answer to this question can be summarized as follows.

Cloud computing can be defined as the computational power which completely resides on the cloud at all times. It is one of the latest innovations in the internet saga domain and primarily uses the Internet i.e. the Cloud, as its chosen method of delivery. The cloud computing service is truly global and contains no border or geographical restrictions as such.

Starting from small businesses which need computational support on a regular basis all the way up to large enterprises, almost every company on the planet uses Google Cloud in some way or the other.

****More details:**** [https://www.whizlabs.com/blog/cloud-computing/](https://www.whizlabs.com/blog/cloud-computing/" \t "https://www.whizlabs.com/blog/google-cloud-interview-questions/_blank)

#### 2. What is the cloud?

****Answer:****Similar to the above Google cloud interview question, this too is a question aimed at checking the candidate’s basic understanding of cloud computing technology.

To answer this, a candidate can simply state that the cloud is a combination of network, hardware, storage, interface, and storage that combines and delivers cloud computing as a service throughout the globe. The cloud computing platform mainly has 2 stakeholders in the process.

The first one being the end user who is using the cloud service to serve a multitude of purposes and the next is the cloud service provider who is responsible for taking care of the cloud and IT assets of the managing company behind the cloud services.

#### 3. What are the main features of Cloud Services?

****Answer:****A part of the Google cloud interview questions and answers, the answer to this question can be given in the following manner. Like most other states of the art innovations in the market, Cloud Service and Cloud Computing as a whole also have a multitude of features and advantages associated with it. Mentioned below are the same. The ease to access and manage commercial software from anywhere around the globe.

1. All the management activities associated with software can and is centralized easily to a central web service.
2. The ability to design and develop web applications which are capable of handling multiple clients from across the globe at the same time.
3. Putting an end to the need of downloading software upgrades by centralizing and automating the updating process of all software that is installed on the platform.

#### 4. What and how many types of development models are used in the Cloud?

****Answer:****This is one of the most common Google cloud engineer interview questions and can be answered in the following manner.

Similar to other complex and latest innovations in the technology industry, the development of cloud computing also calls for the use of a variety of development models. Mentioned is the list of the same.

* + - 1. Community Cloud
      2. Private Cloud
      3. Public Cloud
      4. Hybrid Cloud

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#### 5. Why do organizations need to manage their workload?

****Answer:****This question is a part of the Google cloud architect interview questions which are asked to candidates interested to work as Cloud Architects for the internet giant. The answer for the same is as below.

The workload in an organization can be defined as an independent service of its own and having a set of code which needs to be executed. This workload contains everything starting from data-intensive workload all the way up to transaction and storage processing. All this workload doesn’t depend at all on outside elements.

The main reasons as to why organizations should manage their workload are as follows.

* + - 1. To have an idea about how their applications are running.
      2. To exactly know what functions are taking place.
      3. To get an idea about the charges of an individual department in exchange for using these services.

Preparing for an Azure interview? Go through these top [Azure interview questions](https://www.whizlabs.com/blog/azure-interview-questions/" \t "https://www.whizlabs.com/blog/google-cloud-interview-questions/_blank) and get ready for the interview.

#### 6. What are the advantages of Cloud Services?

****Answer:****The main idea behind the creation of the cloud and publishing cloud services to consumers around the world was because of its greatest advantages. Here are some of them:

* + - 1. The entire infrastructure saves a lot of cost at the consumer’s end since the consumer doesn’t necessarily have to install any kind of infrastructure at their end to use this service.
      2. It supports the development of both robust and highly scalable applications. Since its arrival, the whole development and scaling process which earlier used to take months can now be done in a matter of days.
      3. Maintenance and deployment of any application on the platform are super easy and efficient which saves a lot of time in the long run.

#### 7. Share your views on Cloud Computing Revolution.

****Answer:****Since its inception into the market, cloud computing has created a revolution of sorts in the market. The main idea behind the cloud computing revolution doesn’t lie in the ideology of doing old things a new way, but also to make the entire process cheaper and much more efficient in the long run.

With the advancement of cloud computing every day, new doors are being explored and the future of the IT industry does seem very promising.

#### 8. What can be done using Cloud Computing?

****Answer:****As Google is a cloud computing platform, Google Cloud interview questions are comprised of the general cloud computing questions. So, while going for a Google cloud interview, you need to prepare yourself with the [basic cloud computing knowledge](https://www.whizlabs.com/blog/cloud-computing/" \t "https://www.whizlabs.com/blog/google-cloud-interview-questions/_blank).

The potential of what all can be done using cloud computing is far greater than what most people might assume. The fact that the technology is super speedy, added with the fact that the consumer can just start using it without the need to purchase anything, itself are solid factors which point towards a bright future.

For example, the medical and healthcare industry now uses cloud computing on a regular basis to reach and be in touch with their patients at all times. Thus it can be confidently said that the future holds a plethora of opportunities for cloud computing and its patrons.

****Also Read:**** [Top Cloud Computing Trends for 2018](https://www.whizlabs.com/blog/cloud-computing-trends/" \t "https://www.whizlabs.com/blog/google-cloud-interview-questions/_blank)

#### 9. How would you save your applications, software, and drivers for a long term without using any magnetic disk?

****Answer:****With the invention and advancement made in the past few years in the Cloud Computing industry, the need for disks or storage devices has become null and void. These days, any data, be it in any format can be easily stored away for a long period of time, just by uploading it on a cloud computing service.

Once uploaded, the data will remain there forever unless the user wants to make some changes or modifications. Although it is a general question on cloud computing you may find this among Google Cloud interview questions and answers.

#### 10. How does Cloud Computing provide on-demand functionality?

****Answer:****Cloud computing as a technology was created on the pillars of providing the functionality to all its users on demand, anytime anywhere. With the latest advancements and easy access to applications such as Google Cloud, the idea is much easily realized than earlier.

With applications like Google Cloud, a user can view the files on the cloud on any device at any time of their preference no matter in which part of the world they are in.

#### 11. What is Google Cloud Platform?

****Answer:****This is one of the most basic Google Cloud Platform interview questions and answers that the interviewer may ask the candidate. The answer to this question can be summarized as below.

Google Cloud Platform is a cloud platform developed by Google, that helps people to access the cloud systems and computing services. GCP offers a large number of services under the compute, database, storage, migration and networking domains of cloud computing.

****More Details:**** [https://www.whizlabs.com/blog/google-cloud-platform/](https://www.whizlabs.com/blog/google-cloud-platform/" \t "https://www.whizlabs.com/blog/google-cloud-interview-questions/_blank)

#### 12. What are the various components of the Google Cloud Platform?

****Answer:****Just like the above question, this is also one of the popular Google Cloud interview questions that you may come across. You can answer it as Google Cloud Platform (GCP) is composed of a set of elements that helps people in different ways. The various GCP elements that I know are –

* Google Compute Engine
* Google Cloud Container Engine
* Google Cloud App Engine
* Google Cloud Storage
* Google Cloud Dataflow
* Google BigQuery Service
* Google Cloud Job Discovery
* Google Cloud Endpoints
* Google Cloud Test Lab
* Google Cloud Machine Learning Engine

#### 13. What are the main advantages of using Google Cloud Platform?

****Answer:****Google Cloud Platform is a medium that provides its users access to the best cloud services and features. It is gaining popularity among the cloud professionals as well as users for the advantages if offer.

Here are the main advantages of using Google Cloud Platform over others –

* GCP offers much better pricing deals as compared to the other cloud service providers
* Google Cloud servers allow you to work from anywhere to have access to your information and data.
* Considering hosting cloud services, GCP has an overall increased performance and service
* Google Cloud is very fast in providing updates about server and security in a better and more efficient manner
* The security level of Google Cloud Platform is exemplary; the cloud platform and networks are secured and encrypted with various security measures.

If you are going for the Google Cloud interview, you should prepare yourself with enough knowledge of Google Cloud Platform. The advantages of GCP is among frequently asked Google Cloud interview questions, so you need to be prepared to answer it.

#### 14. Why should you opt to Google Cloud Hosting?

****Answer:****The reason for opting [Google Cloud Hosting](https://www.whizlabs.com/blog/google-cloud-hosting/" \t "https://www.whizlabs.com/blog/google-cloud-interview-questions/_blank) is the advantages it offers. Here are the advantages of choosing Google Cloud Hosting:

* Availability of better pricing plans
* Benefits of live migration of the machines
* Enhanced performance and execution
* Commitment to Constant development and expansion
* The private network provides efficiency and maximum time
* Strong control and security of the cloud platform
* Inbuilt redundant backups ensure data integrity and reliability

The interviewer may ask this question to check your knowledge and explanation skills about Google Cloud. This type of questions are basically categorized under the Google Cloud consultant interview questions and may be asked in the Google Cloud interview.

#### 15. What are the libraries and tools for cloud storage on GCP?

****Answer:****At the core level, XML API and JSON API are there for the cloud storage on Google Cloud Platform. But along with these, there are following options provided by Google to interact with the cloud storage.

* Google Cloud Platform Console, which performs basic operations on objects and buckets
* Cloud Storage Client Libraries, which provide programming support for various languages including Java, Ruby, and Python
* GustilCommand-line Tool, which provides a command line interface for the cloud storage

There are many third party libraries and tools such as Boto Library. This is the technical question that you may come across if you are going for the Google Cloud Engineer interview. You need to prepare yourself with the basic knowledge of GCP tools and libraries.

#### 16. What do you know about Google Compute Engine?

****Answer:****Google Cloud Engine is the basic component of the Google Cloud Platform. So, it becomes a common question that lies under the Google Cloud Engineer interview questions as well as Google Cloud Architect interview questions.

Google Compute Engine is an IaaS product that offers self-managed and flexible virtual machines that are hosted on the infrastructure of Google. It includes Windows and Linux based virtual machines that may run on local, KVM, and durable storage options.

It also includes REST-based API for the control and configuration purposes. Google Compute Engine integrates with GCP technologies such as Google App Engine, Google Cloud Storage, and Google BigQuery in order to extend its computational ability and thus creates more sophisticated and complex applications.

Preparing for Google Cloud Architect Certification? Check out the [Google Cloud Certified Professional Cloud Architect practice test](https://www.whizlabs.com/google-cloud-certified-professional-cloud-architect/" \t "https://www.whizlabs.com/blog/google-cloud-interview-questions/_blank).

#### 17. How are the Google Compute Engine and Google App Engine related?

****Answer:****This typical and straightforward question is a part of the frequently asked Google Cloud Platform interview questions and answers, and can be answered like this. Google Compute Engine and Google App Engine are complementary to each other. Google Compute Engine is the IaaS product whereas Google App Engine is a PaaS product of Google.

Google App Engine is generally used to run web-based applications, mobile backends, and line of business. If you want to keep the underlying infrastructure in more of your control, then Compute Engine is a perfect choice. For instance, you can use Compute Engine for the implementation of customized business logic or in case, you need to run your own storage system.

#### 18. How does the pricing model work in GCP cloud?

****Answer:****While working on Google Cloud Platform, the user is charged on the basis of compute instance, network use, and storage by Google Compute Engine. Google Cloud charges virtual machines on the basis of per second with the limit of minimum of 1 minute. Then, the cost of storage is charged on the basis of the amount of data that you store.

The cost of the network is calculated as per the amount of data that has been transferred between the virtual machine instances communicating with each other over the network. You should prepare yourself with the questions on Google Cloud Platform pricing models as these are among the most common Google Cloud interview questions.

#### 19. What are the different methods for the authentication of Google Compute Engine API?

****Answer:****This is one of the popular Google Cloud architect interview questions which can be answered as follows. There are different methods for the authentication of Google Compute Engine API:

* Using OAuth 2.0
* Through client library
* Directly with an access token

#### 20. What are the service accounts? How will you create one?

****Answer:****This is one of the most common Google Cloud interview questions and the detailed answer to it can be given this way. The special accounts related to a project are known as the Service Accounts. The service accounts are used for the authorization of Google Compute Engine so that it could perform on behalf of the user and thus could access non-sensitive data and information.

These accounts generally simplify the authentication process from Google Cloud Engine to the other services through handling the process of authorization for the user. It is required to mention that service accounts are not used in order to access the information of the user.

There are various types of service accounts offered by Google but mainly, users prefer to use two types of service accounts, these are –

* Google Cloud Platform Console service accounts
* Google Compute Engine service accounts

The user doesn’t need to create a service account manually. It is automatically created by the Compute Engine whenever a new instance is created. Google Compute Engine also specifies the scope of the service account for that particular instance when it is created.

#### 21.  What do you know about Projects?

****Answer:****This is one of the most common Google Cloud interview questions****.****This typical and straightforward question is a part of the frequently asked Google cloud engineer interview questions and can be answered this way. The projects are the containers for the resources of Google Compute Engine. The main points about the projects are –

* The projects comprise the world of compartments
* The projects are not meant for resource sharing
* The projects may have different users and owners
* The billing for all the projects is done separately
* The projects are no more accessible to each other

#### 22. How will you create a Project?

****Answer:****One needs to follow the below-mentioned steps for creating a Project –

* Go to the Google Cloud Platform Console
* Once prompted, create a new project or select an existing project
* In order to set up billing, follow the prompts.

Remember, if you are new to the Google Cloud Platform, you can use your free trial credit to make the payment for your instance.

#### 23. How will you differentiate a Project Id and Project Number?

****Answer:****There are two parameters to identify a project, one is the project id and another one is the project number. The two can be differentiated as follows –

Whenever a new project is created, the project number for that is created automatically whereas the project number is created by the user himself. The project number is compulsory and mandatory while the project id can be optional for may services (but it is a must for the Google Compute Engine).

Simple but one of the best Google Cloud interview questions, this question may be asked in the Google Cloud Engineer interview. So, it is important to cover the basic concepts of projects while going for the Google Cloud interview.

Google Cloud brings something new every year. Let’s come across the [Google Cloud trends](https://www.whizlabs.com/blog/google-cloud-trends/" \t "https://www.whizlabs.com/blog/google-cloud-interview-questions/_blank) in 2018.

#### 24. How will you request more quota for your project?

****Answer:****Some default quotas are provided to all the Google Compute Engine projects for various types of resources. The quotas can also be increased on the basis of per-project. One can check the quota limits for the project on the quota page on the Google Cloud Platform Console.

In case, you find that you have reached the quota limit for your resources, and you want to increase the quota, then you can make a request to get more quota for some specific resources using IAM quotas page. You can request more quota directly through the Edit Quotas button on the top of the page.

Whether you are going for the Google Cloud Architect or Google Cloud Consultant interview, you may come across this type of Google Cloud interview questions. So, prepare yourself very well to crack the interview.

#### 25. Suppose you have deleted your instance by mistake. Will you be able to retrieve it back? If yes, how?

****Answer:**** It is a very simple question but based on the deep understanding of the Google cloud platform. This is among best Google Cloud Platform interview questions that can be answered in the following way.

****No****, it is not possible to retrieve the instances that have been deleted once. If it has been stopped, it can be retrieved back by simply starting it again.

#### 26. What is Google BigQuery? What are the benefits of BigQuery for the data warehouse practitioners?

****Answer:****Google BigQuery is a replacement of the hardware setup for the traditional data warehouse. It is used as a data warehouse and thus, acts as a collective store for all the analytical data in an organization. Also, the BigQuery organizes the data table into the units that are known as datasets.

****Using BigQuery proves very useful for the data warehouse practitioners, here are some of them –****

* BigQuery allocated query resources and storage resources dynamically on the basis of requirement and usage. Thus, it doesn’t require the provisioning of resources before usage.
* BigQuery stores data in different formats such as proprietary format, proprietary columnar format, query access pattern, Google’s distributed file system and others for efficient storage management.
* BigQuery is fully maintained and managed service. BigQuery engineers manage the updates and maintenance of the service fully without any downtime or hindrance to the performance.
* BigQuery provides backup recovery and disaster recovery at a broader level. The users can easily undo the changes and revert to the previous state without making any request for the backup recovery.

One who is preparing for the Google Cloud Data Engineer interview may come across this type of questions in the interview. It lies among the latest Google Cloud interview questions and you need to cover the detailed answer of it.

Thinking to validate your Google Cloud knowledge with a certification, here are the [Google Cloud Certifications](https://www.whizlabs.com/blog/google-cloud-certifications/" \t "https://www.whizlabs.com/blog/google-cloud-interview-questions/_blank) you can choose from.

#### 27. What do you know about Google Cloud SDK?

****Answer:****Google Cloud SDK (Software Development Kit), in simple terms, is a set of tools that are used to manage applications and resources that are hosted on the Google Cloud Platform. It is composed of the gsutil, gcloud, and bqcommand line tools. The gcloudtool is automatically downloaded with the Cloud SDK.

There are some prerequisites or the system requirements for the installation of Google Cloud SDK. Google Cloud SDK run on specific platforms – Windows, Linux, and macOS and requires Python 2.7.x. Some specific tools in the Google Cloud SDK may have additional requirements such as Java tools used for the development of Google App Engine requires Java 1.7 or the later one.

You may come across one or more questions on Google Cloud Software Development Kit in your Google Cloud interview. Preferably, this type of questions are among the top Google Cloud Engineer interview questions.

#### 28. What are the different installation options for the Google Cloud SDK?

****Answer:****There are four different methods for the installation of the Google Cloud SDK. As per the requirement, the user can opt for any of the followings to install Google Cloud Software Development Kit.

* Using Cloud SDK with scripts or continuous integration or continuous deployment – in this case, the user can install google cloud SDK by downloading a versioned archive for a non-interactive installation of a specific version of Cloud SDK.
* By running Red Hat Enterprise Linux 7/CentOS 7 – YUM is used to get the latest released version of the Google Cloud SDK in the package format.
* Through running Ubuntu/Debian – APT-GET is used to get the latest released version of the Google Cloud SDK in the package format.
* For all the other use cases, the user can run the interactive installer to install the latest version of the Google Cloud SDK.

#### 29. What are the Google Cloud APIs? How can you access them?

****Answer:****As an important part of the Google Cloud Platform, Google Cloud APIs questions covers a section of the frequently asked Google Cloud interview questions. Get familiar with the basics and you will be all prepared for the interview.

Allow users to add the power of everything to your Google Cloud-based application, and that’s in the easiest manner. APIs can add power to everything from storage access to the image analysis that is based on machine learning.

****Accessing Google Cloud APIs****

One can easily access Cloud APIs with the client libraries from the server applications. You can use a number of programming languages to access Google Cloud APIs, by using mobile applications via Firebase SDKs or through the third-party clients. Google Cloud APIs can also be accessed through Google Cloud Platform Console Web UI or Google SDK command line tools.

#### 30. How will you view your transaction history in the Google Cloud Platform?

****Answer:****Whatever is the job role, costing, payment, transaction are the common terms which form a part of the Google Cloud interview questions. The detailed step-wise answer to this type of GCP interview questions can be given like this.

There are following steps to view the transaction history in the Google Cloud Platform –

1. Sign in to the **Google Cloud Platform Console**.
2. Go to the left side menu in the console and select **Billing**.
3. Select ****Go to linked billing account**** in case you have more than one billing account in order to manage the billing of the current project. If you want to check to bill for a different account, select **Manage billing accounts**.
4. Go to the ****Transactions****.
5. Note that by default, you will have the view of the past 3 months’ transactions in the Transactions. To perform one of the following actions, you can use the toggle on the page –

****Viewing account history by the transaction type –****Click All Transactions and you can sort the transactions on the basis of Costs, Adjustments, Earnings, and Taxes.

****Viewing transaction history in summary or detailed view –****You can find all the activities of your account billing in the Detailed view. And the transactions are grouped by the type in the Summary view so that you can have a quick view of the payments, costs, and adjustments.

****Changing the data range –****In this view, the user can select any pre-defined range like the previous month, this year, or Custom Data Range to set a range.

#### 31. What is an instance in google cloud?

****Answer:****A Google Cloud console project may have one or more instances, and each instance is linked to one or more projects. A project’s instances may be created using a variety of different operating systems and machine types.

When an instance is deleted, it is no longer a part of the project. The operating system is installed on a tiny boot persistent disc that is part of each Compute Engine instance by design. You may add more storage choices to your instance if your applications demand more storage space.

#### 32. What are google cloud machine images?

****Answer:****With pre-installed apps, Google Cloud Platform already offers the capacity to store bespoke pictures. Machine Images, a new feature currently in beta, contain all the configuration details, including permissions, whereas a custom image is just a disc image. Multiple discs may also be included in machine images.

The introduction of machine pictures serves two purposes. There’s a second one just in case. A VM snapshot may be preserved while using less disc space and performing better thanks to the differential disc backup capabilities provided by machine images.

It may also be used as a base image for new virtual machines. Each new instance of the picture may be customized by overriding the image’s characteristics.

#### 33. What is preemptible VM in GCP

****Answer:****The cost of preemptible Virtual Machine instances is much lower than the cost of ordinary VMs (60-91% cheaper). These VMs, however, may be stopped (preempted) by the Compute Engine if it needs to free up resources for other VMs. They are not always available because preemptible instances make use of extra Compute Engine resources.

Preemptible VMs, like ordinary VMs, need CPU quotas to function. You may request a separate “Preemptible CPU” quota to prevent preemptible VMs from using up your conventional VMs’ CPU limits. Upon receiving a preemptible CPU quota from Compute Engine, all preemptible VMs in that area will count against that quota, but standard VMs in that region will continue to count against the standard CPU limit.

To deploy preemptible VMs in locations without preemptible CPU quota, just utilize the normal CPU quota. As is customary, you’ll also want an adequate amount of IP and disc capacity. In the gcloud CLI or Cloud console quota pages, a preemptible CPU limit is not accessible until Compute Engine has given the limit.

#### 34. What are cloud compute firewall rules?

****Answer:****You may configure your Google Cloud Platform (GCP) firewall rules to allow or block communication between your virtual machine (VM) instances. A firewall rule specifies a VPC network and a collection of components that describe what the rule does. The GCP Firewall Rules document has further in-depth explanations about this.

The Avi Controller, service engines (SE), and application servers all need custom firewall rules to be set up.

The following types of communication are permitted via the use of firewall rules.:

1. Management Traffic
2. The Controller – Service engines
3. Network services used by the Controller
4. Service engine – Service engine
5. Data Traffic
6. Virtual service traffic on service engines
7. Service engine – Application servers
8. Application servers

#### 35. What is autoscaling in GCP

****Answer:****The managed instance groups on the Google Cloud Platform allow for autoscaling. The term “managed instance group” refers to a collection of identical instances that are all derived from a single shared template. Refer to Instance Groups for further information on managed instance groups. The simplest method of autoscaling in Avi Vantage is to scale depending on the CPU consumption of a collection of virtual machine instances.

Multiple zones and single zones may each have their autoscale groups formed (regional). Instances in a single area may be spread over many zones, increasing the overall availability of your application. A region’s managed instance group will produce instances in no more than three zones if there are more than three zones in the area in question. You can also establish instances in areas where there are less than three zones, or in regions where there are more than three zones.

#### 36. What is a google cloud storage bucket?

****Answer:****Google Cloud Storage is built on the same cutting-edge technology that powers Google products across the world, making it easy to store, access, and secure your data. You can save and control access to any amount of data with Google Cloud Storage, whether it’s for an individual or a group. Reliability, virtually infinite scalability, and novel functionality, including security safeguards based on industry standards and advanced data analysis tools, are all aspects you can rely on from Google’s world-class cloud storage system.

Data storage is a time-consuming and expensive endeavor. There are also options for disaster recovery and restoring data from offsite storage, as well as firewalls and backup copies. With Google Cloud Storage, you can store, retrieve, share, and analyze your data day in and day out without having to worry about hardware or firmware updates, scaling up or down, or any other kind of maintenance.

Google Cloud Storage is an excellent choice for application developers looking for simple, cloud-based data storage and access. Google Cloud Storage may also be used for a variety of different purposes:

* Data archiving and backup Using Google Cloud Storage, you can ensure that your data is safe and accessible at all times.
* Save application information Images for a photo-editing program may be accessed quickly using Google Cloud Storage.
* Make data available to coworkers and business partners Owners of data with a dynamic user base will appreciate the ease with which Google Cloud Storage provides the ability to swiftly construct and administer Access Control Lists (ACLs) for their data.
* Enormous volumes of data for analysis Data owners may use Google Cloud Storage to quickly analyze terabytes of data for important business insights thanks to Google’s analytic tools, such as the Prediction API and BigQuery Service.
* Provide websites with access to pre-formatted data. Google Cloud Storage is an excellent option for storing and delivering static data (such as user-generated content) for websites.

#### 37. What is vertex AI in google cloud?

****Answer:****As a result, Vertex AI combines AutoML with AI Platform into a single API, client library, and user experience. Vertex AI has both AutoML and custom training options. Vertex AI lets you save, deploy, and request predictions of your models regardless of how you train them. Build, deploy, and scale machine learning models quicker with pre-trained and custom tools on a single AI platform.

#### 38. What is Google Distributed Cloud?

****Answer:****It is possible to move or update apps and process data locally using a range of Google Cloud services, such as databases, machine learning, data analytics, and container management services. Third-party services may also be used. Distributed Cloud products may be operated in one of four locations, depending on the organization: Google’s network edge, Operator/Customer/Client data center. Google Distributed Cloud products can be run in any of these four locations.

Now more than ever, businesses are eager to speed up their transition to the cloud. They are looking for a way to speed up innovation, reduce risk, and increase efficiency at the same time. As a result, certain of their workloads cannot be completely or immediately moved to the public cloud owing to considerations such as compliance and data sovereignty requirements, low latency or local data processing requirements, and the necessity for services that are near together or nearby.

Google Distributed Cloud, a collection of hardware and software solutions that extends Google’s infrastructure to the periphery and into your data centers, was announced today at Google Cloud Next ’21 to guarantee that these workloads may still benefit from the cloud’s resources.

#### 39. What is GKE Autopilot?

****Answer:****Developed by Google, Kubernetes has become the de-facto standard for container orchestration inside enterprises in the years since its inception. Google Kubernetes Engine is used by organizations that need the greatest levels of stability, security, and scalability for their applications (GKE).

Our application modernization platforms and services—including GKE—were employed by more than 100,000 enterprises in the second quarter of 2020 alone. A lot of manual setups and fiddling were required to get the most out of Kubernetes until recently. The new mode of operation for managed Kubernetes, GKE Autopilot, is now available and enables you to concentrate on your software while GKE Autopilot takes care of the infrastructure.

Because of their strength and versatility, Kubernetes and GKE are a great solution for many enterprises, allowing them to have complete control over the design of their clusters. Although this amount of control and flexibility might be daunting or unneeded for their workloads’ needs, for others it is simply a simple method to construct a more secure and consistent development platform.

Autopilot may assist by managing the cluster architecture, control plane, and nodes, enabling enterprises to adopt Kubernetes and simplifying operations.

#### 40. What is the google Kubernetes engine?

****Answer:****On Google Kubernetes Engine, this course teaches participants how to build and deploy containerized apps (GKE). Participants investigate and install solution pieces, including infrastructure components like pods and containers, via a mix of talks, demonstrations, and hands-on laboratories.

#### 41. What is binary authorization google cloud?

****Answer:****Google Kubernetes Engine (GKE) and Cloud Run use Binary Authorization to guarantee that only trustworthy container images are deployed. Using Binary Authorization, you can ensure that images are signed by trustworthy authorities throughout development and impose signature validation when deploying. Validation ensures that only confirmed pictures are included in the build-and-release process, giving you more control over your container environment.

#### 42. What are the key features of cloud services?

****Answer:****

There are many key features of cloud services, but some of the most important ones include scalability, flexibility, and cost-effectiveness.

Scalability is one of the most important features of a cloud service, as it allows businesses to scale their usage up or down as needed, without incurring any additional costs. This is a major advantage over traditional on-premise solutions, which can be very expensive to scale.

Flexibility is another key feature of cloud services. With a cloud service, businesses can choose from a variety of different pricing models and service levels, which gives them the flexibility to find the right solution for their needs.

Cost-effectiveness is another big advantage of cloud services. Because they are delivered over the internet, they are typically much cheaper than traditional on-premise solutions. Plus, they can often be paid for on a pay-as-you-go basis, which can further reduce costs.

#### 43.List out the different layers of cloud architecture?

The four main layers of cloud architecture are the infrastructure layer, the platform layer, the software layer, and the user layer.

* The infrastructure layer is the foundation of the cloud and includes the hardware, networking, and storage       components.
* The platform layer is responsible for managing and deploying the cloud infrastructure.
* The software layer provides the applications and services that run on the cloud.
* The user layer is the interface between the user and the cloud. It includes the tools and interfaces that users use to access and manage the cloud.

## **1. What is cloud computing?**

Cloud computing refers to the delivery of computing services. These also include servers, storage, databases, software, and intelligence present over the Internet (the “cloud”).  The cloud refers to the servers that can be accessed over the Internet.

The best part about cloud computing services is that it runs globally and has no geographical restrictions. Almost 90% of the world’s organizations have shifted their infrastructure to the cloud rather than using physical data centers.

## **2. What is Google Cloud Platform?**

* Google Cloud Platform is a cloud-based platform run by Google itself.
* It combines virtual machines, computing, networking, databases, storage, big data and management services, machine learning, etc.
* All these services can be operated on the Google infrastructure for its end-user products such as the Google search engine, Gmail, YouTube, Google Drive, etc.

## **3. List down the significant features of the Google Cloud Platform (GCP).**

Given below are the major features of the Google Cloud Platform (GCP):

* GCP provides an easy way to resize your virtual machine resources such as CPU, RAM and storage to an optimum size. This feature allows you to know whether your machines are of the right size or not.
* The Google cloud shell present with GCP has a lot of pre-installed tools. It lets you control a number of processes from the shell.
* Some pre-installed tools include Docker, Gradle, npm, nvm, pip, Make, etc.
* It is very easy to create your own custom machine type with varying resources of CPU, memory and storage with GCP.
* Fault-tolerant and batch jobs cost less than 70% of normal because of the presence of VMs.
* You do not need to worry about space. The Cloud SQL feature in GCP automatically checks for storage available in the database every 30 seconds. It adds space whenever it is needed.
* You can reduce/increase the size of the persistent disk without any downtime.

## **4. What are the advantages of using the Google Cloud Platform?**

If you want to enjoy the best of cloud services, **[GCP Certification](https://www.nwkings.com/courses/gcp)** is the best. It is gaining a lot of popularity because of its unlimited advantages.

The main benefits of using the Google Cloud Platform are as follows:

* GCP’s pricing deals are way better than any other cloud service provider.
* With Google Cloud servers you can work from anywhere to access your information and data.
* Google Cloud is very fast in providing updates about servers and security in an efficient way.
* The Google Cloud provides the best security. The GCP platform and networks are secured and encrypted with multiple security measures.
* GCP has an overall increased performance and service as compared to other platforms hosting cloud services.

## **5. What libraries and tools are present for cloud storage on GCP?**

There are two main basic cloud storages on the Google Cloud Platform. These are:

* JSON
* XML APIs

In addition to these, Google provides the following to work with the cloud storage:

* Google Cloud Platform Console for basic operations on buckets and objects.
* Cloud Storage Client Libraries that provide programming support in various languages.
* Gustil Command-line Too has a CLI to support cloud storage.
* Various Third-party tools, for example,**Boto Library**.

## **6. What are the various methods for authentication of Google Compute Engine API?**

There are different methods for the authentication of Google Compute Engine API:

* Using OAuth 2.0
* Through client library
* Directly with an access token

## **7. What are the various layers in the cloud architecture?**

There are 4 different layers that make up the cloud architecture. These are:

* **Physical layer:**

This layer consists of the physical servers, network and other aspects.

* **Infrastructure layer:**

This layer consists of storage, virtualized layers, etc.

* **Platform layer:**

This includes an operating system, apps, etc.

* **Application layer:**

The Application layer is used by the end-user directly.

## **8. Name some of the most popular open-source cloud computing platforms.**

The following are the most popular open-source cloud computing platforms:

* OpenStack
* Cloud Foundry
* Docker
* Apache Mesos
* KVM

## **9. What is Google Cloud API? How could we access it?**

* APIs let you automate workflows with the help of your favorite programming language.
* The Google Cloud APIs are the programmatic interfaces to Google Cloud Platform services.
* They make it easy for users to add power to anything from storage access to machine-learning-based image analytics to Google cloud-based applications.
* Cloud APIs are easy to access with client libraries via server applications.

A number of programming languages provide access to the Google Cloud API. Mobile applications may be used through Firebase SDKs or through third-party clients.

##### **To access Google Cloud API, you can use the following tools:**

* Google SDK command-line tools
* Google Cloud Platform Console Web UI

## **10. What is Google Cloud SDK?**

* Google Cloud SDK consists of a bunch of command-line tools.
* It is used for developing the Google cloud.
* You can access big query, cloud storage, compute Engine and other services with the help of the command line.
* The Google Cloud SDK consists of both the**client libraries**and **API libraries**.
* These tools and libraries let us work with the Virtual Machine instances, handle computer engine networks, storage and firewalls, etc.

## **Experienced-Level GCP Interview Questions and Answers:**

## **11. Why do we need a virtualization platform for cloud implementation?**

* With virtualization, you can create operating systems, virtual versions of storage, networks, and applications, etc.
* You can increase the existing infrastructure with the right virtualization.
* You can execute multiple applications and operating systems on existing servers.

## **12. Tell us something about the projects.**

The projects are the containers for the resources of Google Cloud Engine. The following are the key points about the projects:

* The projects consist of a world of compartments.
* The projects are not supposed for resource sharing.
* The projects may have different users or owners.
* The billing of all projects is done separately.
* The projects are no more accessible to each other.

## **13. How to create a project?**

You can create a project by following the steps given below:

* Open the Google Cloud Platform Console
* When prompted, create a new project or select an existing project
* Follow the prompts to set up billing.

**Note:**If you are new to the Google Cloud Platform, you can use the free trial credit to make the payment.

## **14. What is “EUCALYPTUS” in cloud computing?**

* EUCALYPTUS stands for “Elastic Utility Computing Architecture for Linking Your Programs To Useful Systems”.
* It is an open-source cloud computing infrastructure.
* It is used for deploying cloud clusters.
* You can build public, private, and hybrid cloud platforms with the help of EUCALYPTUS.
* You can even own a data center in the cloud to use its functionality in your organization.

## **15. What is Google BigQuery? What are the advantages for the data warehouse practitioners?**

* Google BigQuery is a substitute for the hardware setup for the traditional data warehouse.
* It is used as a data warehouse.
* It is a collective store for all the analytical data in an organization.
* BigQuery organizes the data table into units known as datasets.

Here are the benefits of using BigQuery for the data warehouse practitioners:

* BigQuery does not need the provisioning of resources before usage. It assigns query resources and storage resources on the basis of need and usage.
* BigQuery stores data in different formats such as:
  + Proprietary format
  + Proprietary columnar format
  + Query access pattern
  + Google’s distributed file system
* BigQuery is a fully maintained and managed service. BigQuery Engineers manage the updates and maintenance of services. This happens without any downtime or interruption in the performance.
* BigQuery provides backup recovery and disaster recovery at a broader level. Users can easily make changes and convert back to the previous state.
* There is no need to make a request for the backup recovery.

## **16. What are the different modes of software as a service (SaaS)?**

These are the two most important types of software as a service (SaaS):

* **Single multi-tenancy:**

You get to have your own independent resources that are private to you.

* **Fine grain multi-tenancy:**

The resources are shared between multiple tenants even though the functionalities stay the same while using this type of SaaS deployment.

## **17. What is binary authorization google cloud?**

* Google Kubernetes Engine (GKE) and Cloud Run use binary authorization to make sure that only trustworthy container images are deployed.
* You can make sure that images are signed by trustworthy authorities throughout the development and ask for signature validation when deploying. This is the power of binary authorization.
* Validation makes sure that only confirmed pictures are included in the build-and-release process. This gives you more control over your container environment.

## **18. What is load balancing in cloud computing?**

* The process of distributing the computing resources and workloads in a cloud computing environment to manage the demands is called **load balancing**.
* It allows you to achieve high performance for lower prices as the workload demands are very well managed with the assignment of resources.
* Load balancing uses scalability and agility to improve the availability of resources to the demands.
* It also provides regular health check-ups for the cloud application.
* The load balancing feature is given by all the major cloud vendors such as AWS, Microsoft Azure, GCP, etc.

## **19. What is the difference between elasticity and scalability in cloud computing?**

##### **Scalability:**

In cloud, through scalability you can increase the ability to service additional workloads by two ways: by adding new servers or by placing it within existing servers.

##### **Elasticity:**

It is the process by you can add or remove virtual machines on the basis of the requirement. This reduces wastage of resources and reduce costs.

## **20. What is VPC?**

* VPC stands for Virtual Private Cloud.
* It is a virtual network offering connectivity to Google Kubernetes Engine clusters, compute Engine’s VM instances and many other resources.
* The VPC provides a lot of flexibility to control the way workloads connect globally or locally.
* A single VPC may cover more than more region without communicating over the Internet.

## **21. What are system integrators in cloud computing?**

A lot components to a cloud can be complex. System integrators is the strategy by which the cloud makes it possible to design the cloud and integrate different components for the creation of a hybrid or private cloud network.

## **22. How can you protect data from cloud transport?**

In order to make sure that the cloud data is secure, you need to verify that the encryption key used along the data you provide does not leak data. It is because it moves from point A to point B on the cloud.

### **1. What is a cloud?**

A computer system that has a network, hardware, storage, and an application programming interface is referred to as a "cloud," and its name comes from the word "cloud." The combination of these two factors is what makes cloud computing a universal service that everyone can use.

Computing in the cloud is employed extensively by businesses in order to fulfill the requirements posed by its stakeholders. In any given cloud computing system, the two most important participants are the service provider, who is in charge of providing and managing the cloud services, and the end-user, who makes use of the cloud services for a variety of different reasons.

### **2. Explain the Google Cloud and all of its different levels.**

There are four separate tiers of the Google Cloud Platform, and they are as follows:

1. IaaS is an abbreviation for "Infrastructure as a Service," which describes the most fundamental component of a cloud computing environment.
2. The "platform as a service" (PaaS) model, which serves as the second tier, is responsible for providing the underlying infrastructure as well as the application development tools.
3. Users get access to the cloud services offered by the provider through the third layer, which is known as "Software as a Service," or SaaS.
4. Despite the fact that business process outsourcing (BPO) is not a technical solution, it is considered to be the final layer because of its essential role in outsourcing business operations. In the context of cloud computing services, business process outsourcing (BPO) refers to the practice of entering into a contract with a third party in order to manage the requirements of the end user.

### **3. What do you consider to be some of the most noteworthy features of the Google Cloud Platform, and why do you think these features exist?**

The following are the most prominent characteristics:

1. The ability to create your own machine types, complete with arbitrary configurations for the CPU, RAM, and storage devices.
2. When resizing a disc in situ, there is no requirement for maintenance or downtime to be taken.
3. The many different tools that are pre-installed with GCP can be used to manage a wide variety of different operations.
4. There are two different web hosting options available, and you have the option to select either one of them. App Engine gives users the option of using a Platform as a Service, whereas Compute Engine gives users the chance to utilize an Infrastructure as a Service.

### **4. What are the many strategies that might be utilized when developing cloud computing?**

* ****Public Cloud:**** Everyone is able to make use of a service when it is hosted in the cloud and made available through a public subscription model. Users have the ability to access the various components of this kind of cloud, which include the operating system, central processing unit, memory, and storage.
* ****Private Cloud:**** A private cloud is a type of cloud that is accessible solely to a single organization and the individuals working for that company. A similar idea that exists within a company's own network is referred to as the internal cloud or the corporate cloud.
* ****Hybrid Cloud:**** The combination of public and private cloud services is what's meant to be understood by the term "hybrid cloud." This form of infrastructure, which includes a combination of processing, storage, and service components, is frequently used by businesses that desire more scalability and management flexibility than what is currently available to them.
* ****Community Cloud:**** Multiple companies are able to share the same amount of online storage space when using a community cloud.

### **5. What is the Function of a Bucket in Google Cloud Storage?**

"Buckets" are the most straightforward containers that may be used to hold information. Any data that is stored in Cloud Storage must first be organized into a bucket. There is no restriction on the number of buckets that can be added or taken away from the system. Buckets, on the other hand, do not support nesting in the same way that directories and files do.

### **6. What are the benefits and drawbacks of using reserved instances as opposed to on-demand instances.**

Both Reserved Instances and On-Demand Instances offer the same computing options and configurations, therefore there is no difference between the two. When renting (reserving) a Reserved Instance for a predetermined amount of time, the user is entitled to a price reduction in comparison to the standard cost of an On Demand instance.

### **7. How can you save money by using cloud computing?**

With the help of cloud computing, you won't require the assistance of a large number of individuals. In a manner analogous to that of carpooling, these make use of a communal pool of resources, for which users pay only for the amount of those resources that they really consume.

### **8. What are the connections between Google Compute Engine and Google App Engine?**

The product that Google offers in the category of infrastructure as a service (IaaS) is referred to as Google Compute Engine, whereas the product that Google offers in the category of the platform as a service (PaaS) is referred to as Google App Engine. They complement one another very well and work well together. In contrast to the App Engine, which is in charge of providing power to websites and mobile backends, the Compute Engine can be used to develop one-of-a-kind business logic and can even host an individual data storage system.

### **9. To what extent do you have experience working with application programming interfaces for Google Cloud?**

The primary objective of utilizing application programming interfaces is, of course, to automate processes within the programming language of your choice.

Application programming interfaces are what makes it easy to connect to and integrate with any of Google's many services (APIs). Additionally, it functions as a portal via which users can have access to a range of software services and cloud resources, both internal and external to the organization.

### **10. What is Google Application Engine or GCP Application Engine?**

You have the ability to immediately run your code on Google App Engine, which is also referred to as GCP App Engine. This is made possible by the platform's serverless architecture, which ensures that your app is constantly accessible to users. Google will handle the management of all of your servers and infrastructure for you. GCP App Engine will take care of providing the necessary built-in services and APIs as the traffic to your website increases. You will only be charged for the resources that you actually use, so there is no need to worry about additional costs.

App Engine is a PaaS platform that allows developers to make scalable web applications that operate on Google's data centres. It is sometimes referred to by its acronym, GAE. It is compatible with a wide range of integrated development environments (IDEs) and IDE plugins, such as Jenkins, Eclipse, Git, IntelliJ, and Maven, so you won't need to make any changes to the way you do things now.

### **11. How to migrate servers and virtual machines hosted on-premises or in another cloud to the Compute Engine of the Google Cloud Platform?**

The virtual machines (VMs) can be moved from on-premises data centres, Azure, and Amazon Web Services (AWS) to Google's Compute Engine with the use of the cloud software known as Google Cloud Migrate for Compute Engine. This software does not come with any additional charges or fees attached to it.

### **12. What is "Virtual Private Cloud" (VPC) when referring to Google Cloud Platform?**

Through the use of a Virtual Private Cloud, your Google Cloud Platform (GCP) virtual machine (VM) instances, Google Kubernetes Engine (GKE) clusters, and other resources will be able to connect with one another (VPC). The Virtual Private Cloud gives users a great deal of wiggle room in terms of regulating regional and global workload connectivity. Without having to rely on the public internet, virtual private networks (VPCs) make it possible for multiple regions to communicate with one another.

### **13. Provide a rundown of the most significant advantages gained by utilizing Google's cloud services.**

The following is a list of the primary characteristics of GCP:

1. Using Google Cloud Platform makes it simple to fine-tune the CPU, RAM, and storage capacities of your virtual machine. The virtual machine (VM) rightsizing advice tool clearly demonstrates in a short amount of time whether or not the machines in your environment are utilizing the appropriate quantity of hardware.
2. You will have access to the Google cloud shell when you utilize GCP. This shell comes pre-loaded with a broad number of helpful tools and makes it possible for you to manage your infrastructure with just a few keystrokes. Docker, Gradle, Make, npm, nvm, and pip, along with a great deal more software, is pre-installed and ready to use.
3. You'll have the ability to swiftly prototype new kinds of machines with Google Cloud Platform thanks to its fully programmable CPU, RAM, and storage.
4. The preemptible virtual machines that come with this technology can slash expenses by as much as 70 per cent for fault-tolerant and batch processing.
5. The Cloud SQL functionality of GCP does a check on the database's available storage once every 30 seconds and adds additional if it's required.
6. It is possible to alter the size of a persistent disc in real-time and without disrupting service in any way, either by decreasing or increasing the amount of space it occupies.

### **14. Explain the primary differences that exist between virtualization and cloud computing?**

The phrase "virtualization" refers to the usage of the software that transforms your hardware into many virtual machines, whereas the term "cloud computing" refers to the practice of utilizing several computers and servers that work together as a single entity. In the case of virtualization, each user is provided with their very own unique collection of hardware resources; yet, in the cloud, a user's login information is shared across a number of different machines.

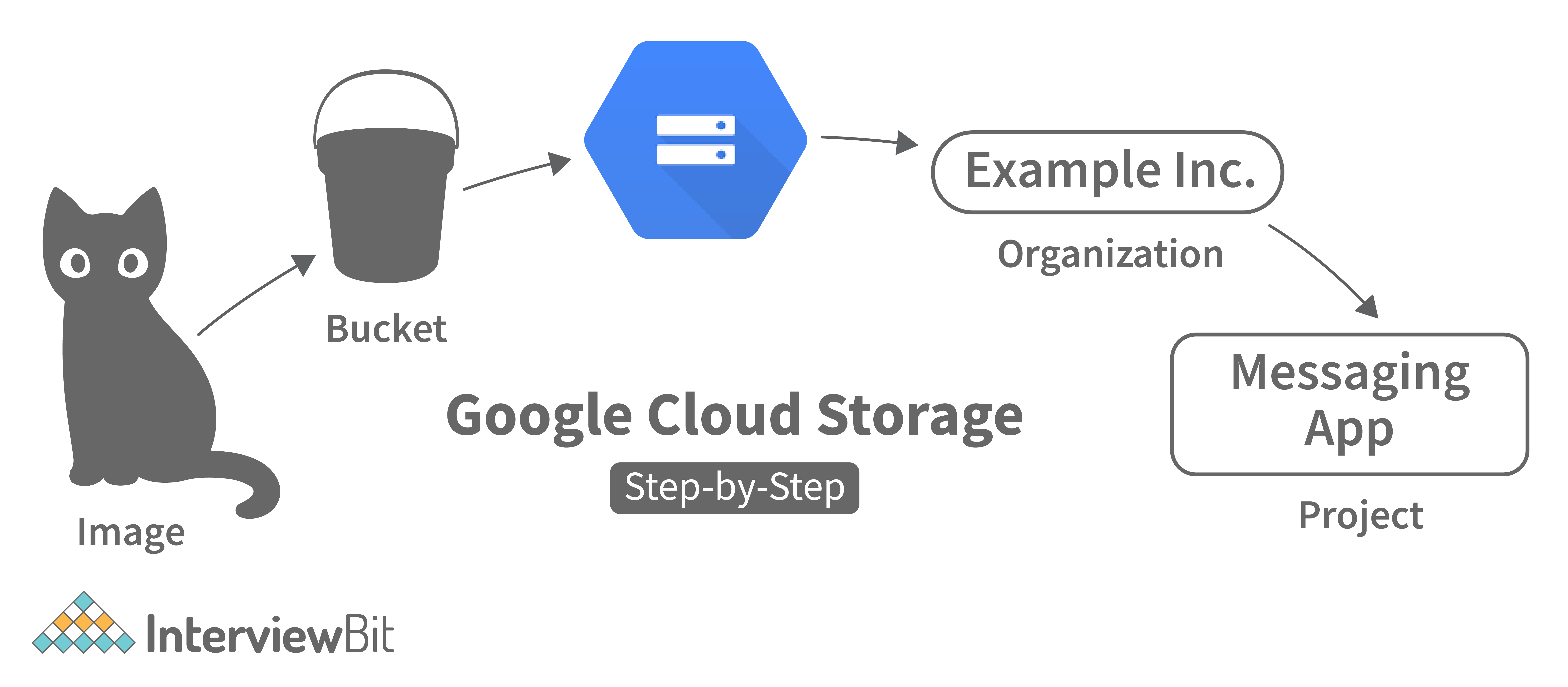
### **15. Explain the Google App Engine.**

Scalability is something that may be provided to web app developers and large enterprises through Google App Engine, which is a Platform as a Service (PaaS) offering. Because of this, developers are able to build, deploy, and scale a totally managed platform according to their requirements.

Support is provided for many of today's most popular programming languages, including Java, PHP, Python, C#,.Net, Go, and Node.js, among others. Because it is malleable, you can use it to develop programmes that are quite robust.

### **16. Explain GCP Storage?**

The cloud-based data storage solution offered by Google is known as Google Cloud Platform (GCP) Storage. Access to your data is possible at any time and in any location. This storage solution is dependable, safe, and scalable all at the same time. This service gives you the ability to securely store not just your own data but also the data generated by your apps, as well as the data generated by your customers.



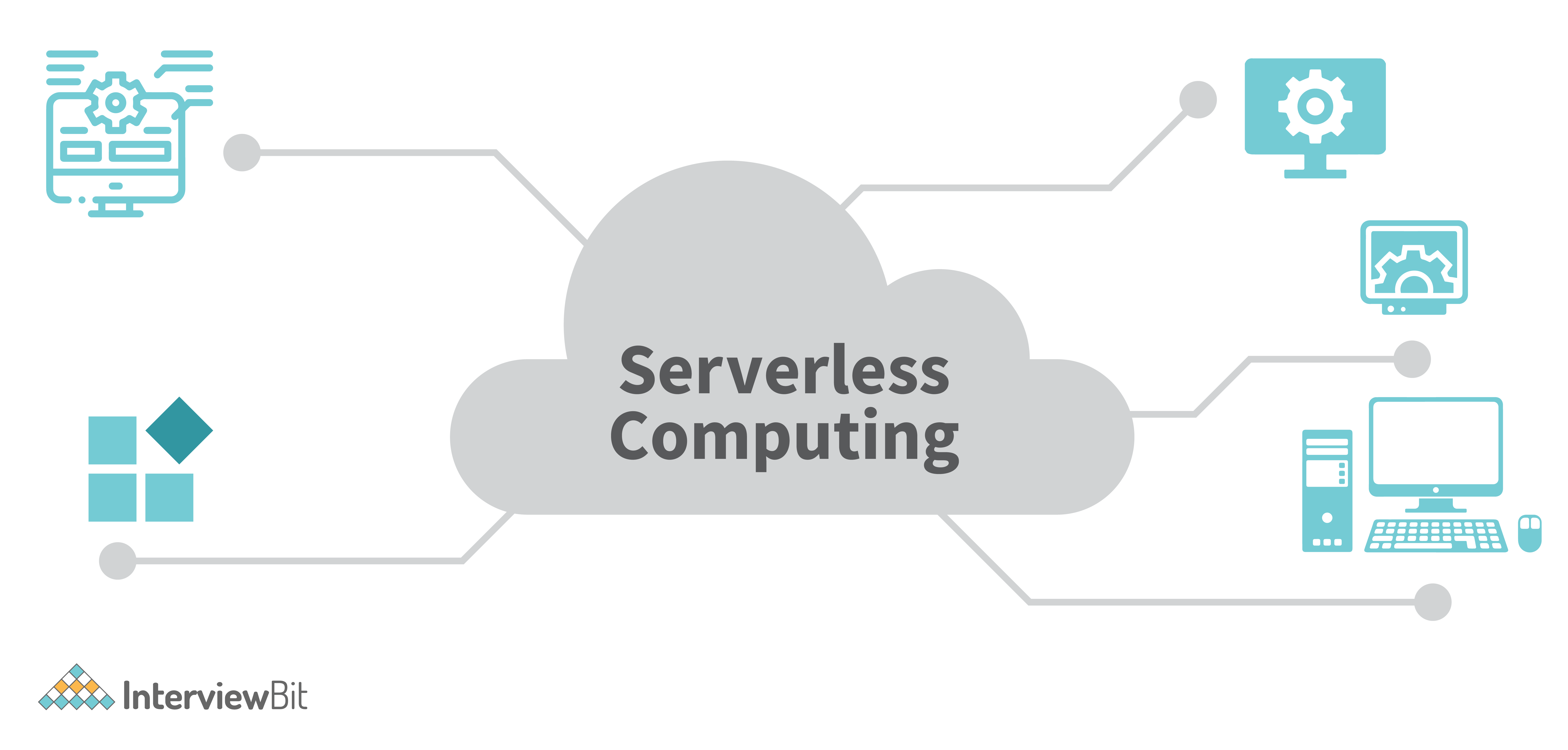
### **17. What are GCP Objects?**

Object versioning makes it possible to restore deleted or overwritten data. This includes entire databases. Object versioning causes an increase in storage costs, but it also safeguards the objects, preventing them from being mistakenly deleted or replaced.

When object versioning is enabled in a Google Cloud Storage (GCP) bucket, a historical copy of the item is saved anytime it is modified or removed. This happens regardless of whether the item is being kept or deleted. Generation and meta-generation are the qualities that are utilized to figure out which form of an object is being referred to in a certain context. The term "generation" refers to the process of creating material, whereas "metageneration" refers to the process of creating metadata.

### **18. What is serverless computing?**

Serverless computing is made possible by cloud service providers who maintain a server in the cloud and dynamically allocate resources to customers. Because the provider is responsible for the underlying hardware, the user is free to concentrate on their task without being distracted by concerns about the system's workings.



The costs that are linked with the users' utilization of the resource are anticipated to be covered by them. The deployment procedure is simplified for end users as a result, and they no longer need to worry about scalability or maintenance. This falls under the category of "utility computing."

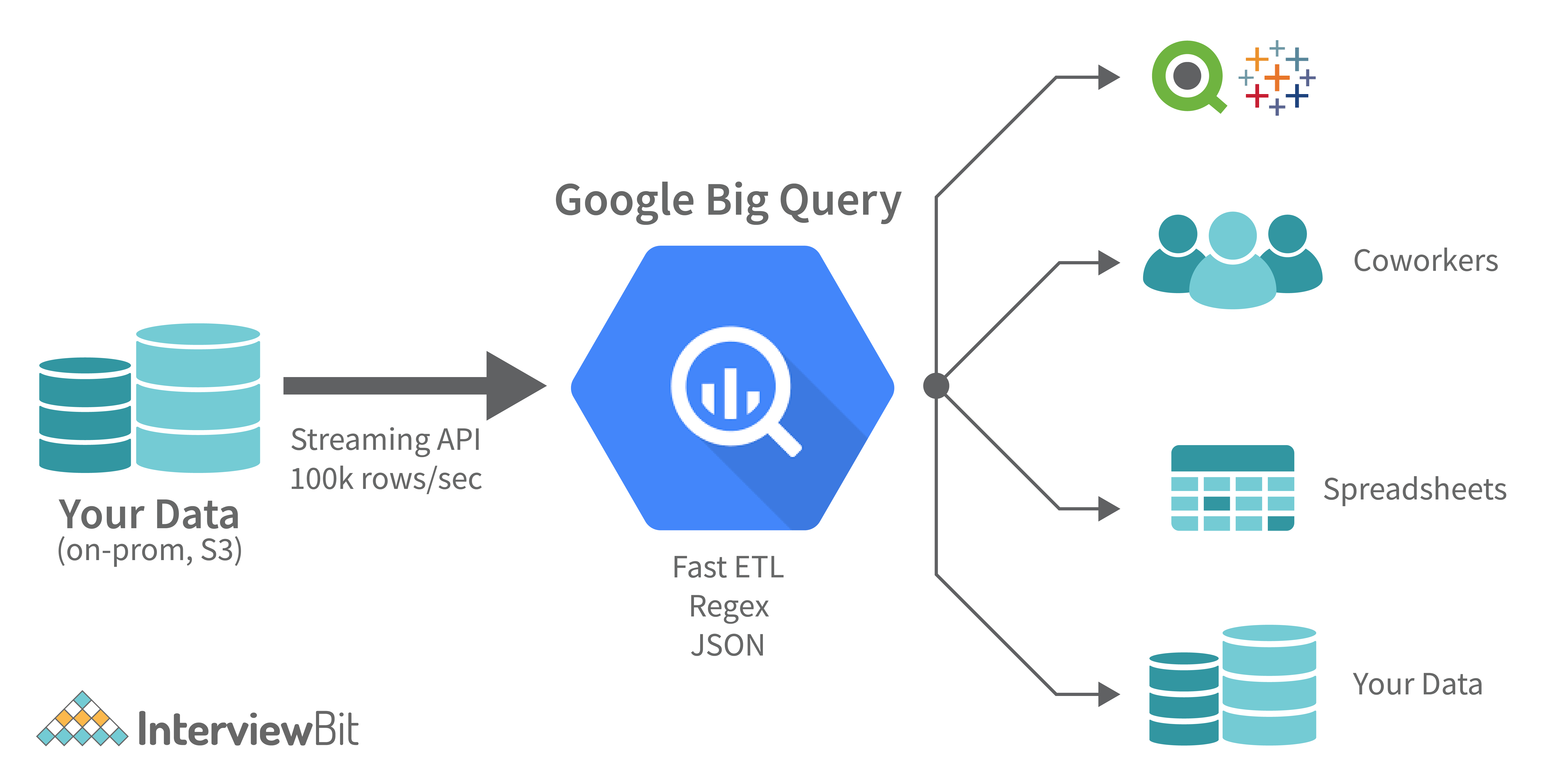
### **19. Please explain about Cloud-based load balancing.**

Load balancing refers to the process of dividing up tasks and resources between all of the cloud's accessible servers in an equitable manner. This helps in obtaining high performance at reduced costs by carefully managing the requirements of the workload as well as the distribution of the available resources. Scalability and flexibility are utilized so that supply and demand can be more effectively matched.

In addition to this, it is utilized for the purpose of monitoring the health of the cloud service on its own. This functionality is offered by all of the major cloud service providers, such as Amazon Web Services (AWS), Google Cloud Platform (GCP), Microsoft Azure, and so on.

### **20. Explain BigQuery.**

BigQuery is a service that can be found on the Google Cloud Platform. This service acts as a storage facility for major companies and organizations. This reasonably priced and highly scalable software analyses data in memory and makes use of machine learning to improve the quality of the results.



You will have the ability to quickly develop analytical reports and perform real-time evaluations of the data with the assistance of a data analytics engine. BigQuery is able to access and work with a wide variety of external data sources, including object storage, transaction databases, and spreadsheets.

### **21. Explain Google Cloud Messaging?**

Firebase is a message and notification system that is free and ubiquitous (Android, iOS, and the Web). It is also often known as Google Cloud Messaging. That's a terrific approach to get users engaged once more, and one method to do it is by sending a message or notifying a client app. You have the option of sending a message to a single device, an entire group of devices, or all devices that are subscribed to the service.

### **22. What is an Application Programming Interface for Google Cloud? How would it be possible for us to enter the building?**

Users are able to extend the functionality of Google Cloud-based applications in a variety of ways by utilizing the Application Programming Interfaces (APIs) provided by Google Cloud. Some of these ways include improved storage access and image analytics that are powered by machine learning.

In the cloud, application programming interfaces (APIs) are easily accessible through client libraries and server-side code. The Application Programming Interface (API) for Google Cloud can be accessed through a variety of different programming languages. The utilization of mobile apps is made possible by Firebase SDKs and other third-party clients. Both the command-line tools of the Google SDK and the Web-based user interface of the Google Cloud Platform Console can be used to access the Google Cloud APIs.

### **23. What does the Google Cloud Software Development Kit is.**

The Google Cloud Software Development Kit includes a variety of command-line interface (CLI) utilities. The cloud infrastructure that Google uses depends on this data. With the help of these utilities, we are able to use Google Cloud Platform services such as Big Query, Cloud Storage, and Compute Engine from the command line. It comes with both the API libraries and the client libraries in addition to the API libraries. We are able to browse computer engine networks, storage, and firewalls, as well as manage instances of Virtual Machines thanks to the utilities and libraries that we have at our disposal.

## **GCP Interview Questions for Experienced**

### **24. In what ways can information stored in the cloud be safeguarded?**

Every single one of GCP's customers is provided with a comprehensive arsenal of preventative and detective safeguards. Information, Computer Science, and the Provision of Services Customers of Google Cloud Platform (GCP) are granted access to resources, such as Virtual Private Clouds (VPC), Identity and Access Management (IAM), Firewall Rules, and so on, that are compliant with GCP best practises. This ensures the security of all services.

### **25. What does it mean by "Object Versioning"?**

Recovery of unintentionally overwritten or destroyed data is made feasible through object versioning. To secure the safety of objects when they are rewritten or removed, versioning them incurs additional storage expenses. When object versioning is set on in a GCP bucket, anytime an object is removed or replaced, a unique version of the object is created. Generation and meta-generation attributes are used to determine the specific iteration of an object. A generation recognises the production of new content, whereas a metageneration recognises the production of new metadata.

### **26. Differentiate between elasticity and scalability.**

One of the most important aspects of cloud computing is its scalability, which enables it to boost the number of resources it can provide in reaction to an increase in demand for those resources. When there is an increase in the demand for traffic, the design can be scaled up to provide the additional resources that are required. Elasticity, on the other hand, is a property that enables the instantaneous assembly and disassembly of enormous amounts of available resources. It is contingent on the quantity and duration of the resources that are accessible.

### **27. What is the connection between the Google Compute Engine and the Google App Engine?**

The Google App Engine and the Google Compute Engine each have a great deal to contribute to one another. Google Application Engine is a Platform as a Service (PaaS), whereas Google Compute Engine (GCE) offers computing resources. GAE is frequently used to operate a wide variety of applications, the most typical of which are mobile backends, online apps, and bespoke business software.

Compute Engine is an excellent option to go with if we want to have a greater influence over the underlying infrastructure. For example, we could leverage Google Compute Engine to build our very own storage system or to supply specialized business logic.

### **28. What is eucalyptus?**

A Computing Architecture for Elastic Utility Computing that connects your application to Valuable Systems (or EUCALYPTUS for short). The construction of cloud computing farms is accomplished with the help of this open-source platform. It provides hybrid solutions in addition to public and private cloud choices for users to choose from.

### **29. Who are the system integrators when it comes to cloud computing?**

Because there are so many moving pieces, understanding clouds can be difficult at times. The system integrator is the overarching strategy that enables different cloud-related tasks, such as cloud design and the assembly of necessary elements for a public, private, or hybrid cloud infrastructure. In the cloud, the system integrator is the strategy that enables these tasks.

### **30. What are "projects" on Google Cloud, and how do they work?**

The projects act as containers for all of Google Compute's resources and are responsible for their management. They operate as independent domains that are not designed to share resources with one another. There is the potential for a diverse group of stakeholders and owners of the project.

### **31. What's elasticity?**

Elasticity is the quality that enables a material body to return to its original shape and size after being distorted by external forces and then having those forces removed.

### **32. Talk about the revolutionary effects that cloud computing has had.**

Since it was first introduced, cloud computing has caused something like a revolution in the world of business. The overarching goal of the transformation brought on by cloud computing is not simply to rethink the ways in which we carry out our daily activities, but rather to make those activities more productive and less expensive overall.

The field of cloud computing is making leaps and bounds forward on a daily basis, which promises an exciting future for the information technology industry.

### **33. Without using a magnetic disc, what other means do you have to save your software, drivers, and programs for the long term?**

Discs and other forms of data storage have become outdated as a result of the development and proliferation of cloud computing over the past few years, which is the answer.

Users may now easily upload files of any sort to a cloud storage service, which will keep their data safe and make it accessible even after a significant amount of time has passed. When something is uploaded, it will be preserved indefinitely, until the user deletes the individual item or the file itself. Even if this is a general problem with cloud computing, you might be able to discover a solution to it by looking through the questions and answers provided in the Google Cloud interview.

### **34. How does the concept of cloud computing enable ad hoc utilization of its available resources?**

The answer is that cloud computing was built so that its clients can access their data whenever and wherever they need it. This was the primary motivation behind its development. As a result of developments in technology and the accessibility of services such as Google Cloud, the concept may now be realized with a great deal less difficult than it was before possible.

Users have the ability to access their data from any location, at any time, via any device, and at their own convenience thanks to Google Cloud.

### **35. What is the Google Cloud Platform?**

This is an example of a Google Cloud Platform interview question and answer that is considered to be one of the most fundamental. The following is a condensed version of the information that was used to answer this question.

Google has developed a platform called Google Cloud Platform specifically for those who are interested in capitalizing on the various benefits that come with cloud computing. Google Cloud Platform (GCP) is a platform that offers a wide variety of services in the field of cloud computing. These services include compute, database, storage, migration, and networking.

### **36. How much does it cost to use Google Cloud Platform? What kind of payment options are there?**

Users who use Google Compute Engine are charged for the amount of time they spend using Google Cloud Platform based on the amount of storage space, network traffic, and compute instances they consume. The cost of running a virtual machine on Google Cloud is calculated on a per-second basis, with a minimum charge of one minute. Your storage price will ultimately be determined by the total amount of data you have in your account.

The total amount of money spent on the network is directly proportional to the total amount of data that was exchanged between the virtual machines (VMs) that were interacting with one another. You should familiarize yourself with the various price structures utilized by Google before going in for an interview with Google Cloud Platform if you want to do well.

### **37. How precisely are you going to differentiate between a Project Id and a Project Number?**

The project identifier and the project number are the two components that can be utilized to generate a one-of-a-kind identifier for a certain endeavour. It is possible to differentiate between them both by -

In contrast to the user-generated project number, the project number is automatically produced whenever a new project is formed. The user is responsible for producing the project number. Although the project id is not required for many of our services, we do require the project number (but it is a must for the Google Compute Engine).

In the event that you are interviewing to become a Google Cloud Engineer, this is an excellent illustration of a question that is straightforward yet has the potential to be significant. Therefore, it is absolutely necessary to go through the fundamentals of projects before heading for the interview with Google Cloud.

### **38. How do you propose getting a larger quota for the project?**

Every Google Compute Engine project has a default allocation of resources that is assigned to it. There is also the possibility of increasing quotas on a project-by-project basis. On the quota tab of the Google Cloud Platform Console, one is able to observe the various limits that are currently in place for the project.

If you discover that the quota limit for your account has been reached and you would like to make a request for more resources, you can do so through the quotas page found in the IAM. You can quickly and easily ask for extra allocation by clicking on the Edit Quotas link that is located in the top right corner of the page.

These Google Cloud interview questions might be asked of you during an interview for the Google Cloud Architect position or the Google Cloud Consultant position. You need to put in a lot of effort studying if you want to do well in the interview.

### **39. Imagine that you have uninstalled your instance inadvertently. Have faith that you will be successful in regaining possession of it. Is this true, and if so, how is it even conceivable?**

The response is deceptively basic, although it does require an in-depth understanding of the cloud infrastructure of Google. The answer provided here is an effective response to one of the most challenging Google Cloud Platform interview questions.

When an instance is deleted, there is no way to retrieve it again once it has been removed. Restarting it will bring it back to life if it was paused at any point during the process.

### **40. What is meant by the term "instance" when referring to the Google Cloud?**

In the Google Cloud dashboard, a single project can be associated with many instances, and each instance can be associated with a different number of projects. When creating instances for a project, you have the option of using a diverse selection of operating systems and hardware architectures.

When you delete an instance, it is removed from the project entirely and never returns. Each instance of Compute Engine comes pre-configured with a small boot persistent CD on which the operating system is pre-installed. This is a standard feature. You have the option of adding more storage options to your instance if the data storage needs of your applications require more capacity than you currently have available.

### **41. Explain "Google Cloud Machine Images"?**

The answer to this question is that the Google Cloud Platform already has the capability to save one-of-a-kind photos thanks to the applications that are preinstalled on the platform. Machine Images, a brand-new feature that is now in beta testing, contain all of the setup parameters, including permissions, in contrast to a custom image, which is merely an image of a disc. There may be more than one disc in machine photographs.

Utilizing pictures of different types of machinery can help you accomplish two different objectives. There is a second one available in case the first one is damaged. With the differential disc backup characteristics of machine images, a VM snapshot can be saved while using up less space on the disc and operating more effectively. This is made possible by the machine images.

It is also possible to use it as a model for the creation of new virtual machines (VMs). By making use of an override, the image's characteristics can be customized in a unique manner for each copy.

### **42. What does it mean for a virtual machine to be preemptible in GCP?**

The correct response is that normal preemptible VM instances are anywhere from 60-91% less expensive than standard VMs. On the other hand, Compute Engine may choose to shut down (also known as "preempt") particular VMs in order to free up additional resources for use by other VMs. It is not always possible to access preemptible instances because doing so requires additional resources from Google Compute Engine.

Preemptible virtual machines (VMs) need a specific amount of CPU time in order to execute, just like conventional virtual machines need. You can consider requesting a separate "Preemptible CPU" allocation in order to prevent your preemptible virtual machines (VMs) from consuming too much of the CPU allotment that is reserved for your regular VMs.

While a Compute Engine standard CPU quota continues to be in force for all standard virtual machines in a particular region, a Compute Engine preemptible CPU quota applies to all preemptible virtual machines in that region.

It is possible to use the standard CPU quota instead of the preemptible CPU quota when installing preemptible virtual machines onto a host that does not have a preemptible CPU quota. Additionally, you will require some usual extras, such as Internet Protocol (IP) and storage space. Only once Compute Engine has assigned a limit will it appear in the gcloud CLI or Cloud console quota pages as a preemptible CPU limit. This is the case regardless of whether you use the console or the CLI.

### **43. What is Autoscaling in the GCP Environment?**

In response to your inquiry, I can tell you that autoscaling is a feature that is available on the Google Cloud Platform within the controlled instance groups. A "managed instance group" is a collection of linked instances that have been derived from the same master template. These instances have been grouped together for management purposes. Please refer to the article on Instance Groups for any additional information regarding managed instance groups. One of the many ways that autoscaling can be accomplished with Avi Vantage is by adjusting the number of active virtual machines to correspond with the amount of processing power that is required by each individual machine. This is the simplest method.

It is possible to construct auto-scale groups for either a single zone or numerous zones (regional). The availability of your application's instances can be increased for users by spreading them out across a number of different zones. A managed instance group that serves a region will not generate instances in more than those three availability zones, even if the area contains more than three availability zones. When creating instances, you are not restricted to the use of simply the three-zone setup; instead, you have the option of using either the two-zone setup or the multi-zone setup.

### **44. What does it mean when people refer to "vertex AI" in relation to Google Cloud?**

As a result of this, Vertex AI consolidates AutoML and AI Platform into a cohesive collection of application programming interfaces (APIs), client libraries, and user interfaces. Vertex AI provides users with access to AutoML as well as customizable training methods. After training your models in any way that you see appropriate, Vertex AI grants you the ability to save, deploy, and request predictions from those models. It is possible to speed up the process of developing, deploying, and scaling machine learning models by utilizing pre-trained tools and bespoke tools on a single AI platform.

### **45. Explain what Google's Distributed Cloud is.**

It is feasible to migrate or upgrade programs and process data on-premises by utilizing a number of Google Cloud services, such as databases, machine learning, data analytics, and container management services. It is doable to make use of services provided by a third party. Any one of these four locations—network Google's edge, an Operator data center, a Customer data center, or a Client data center—is capable of hosting the operation of Google Distributed Cloud products. The Google Distributed Cloud products can be run from any one of these four locations, making them all viable options.

The shift to cloud computing is becoming increasingly necessary for businesses of all sizes. They are looking for a means to increase productivity while simultaneously lowering risk and accelerating the rate of innovation in their organization. Certain workloads cannot be moved instantly or completely to the public cloud because of factors such as compliance and data sovereignty requirements, low latency or local data processing needs, and the demand for services that are close together or nearby. Other factors include the demand for services that are close together or nearby.

Google introduced Google Distributed Cloud at Google Cloud Next '21. This is a collection of hardware and software solutions that extends Google's infrastructure to the edge and into your data centers while guaranteeing that these workloads can still make use of the cloud's resources.

### **46. What is the GKE Autopilot?**

In the years that have passed since its initial release, Google's Kubernetes has established itself as the industry standard for container orchestration within businesses. Google Kubernetes Engine is utilized by businesses that place the utmost importance on their applications to maintain the greatest levels of dependability, security, and scalability (GKE).

In the second quarter of 2020, more than one hundred thousand companies all around the world utilized at least one of our application modernization platforms or services, such as GKE. Up until quite recently, optimizing Kubernetes typically required a significant amount of manual configuration. You can now focus on your programme without having to worry about the underlying infrastructure now that GKE Autopilot, the new mode of operation for managed Kubernetes, is ready.

Kubernetes and Google Container Engine (GKE) are wonderful options for many companies since they offer powerful and versatile cluster management along with complete administrative access. For some people, the level of control and flexibility may be excessive or daunting in relation to the amount of work they have to do, while for others, it may represent a straightforward method for generating a more secure and consistent atmosphere in which to create.

Because it maintains the cluster's architecture, control plane, and nodes, the autopilot may make it possible for businesses to install Kubernetes and streamline operations. This is because Kubernetes is a container orchestration system.

### **47. What is the Kubernetes platform that Google uses?**

Students will learn how to construct containerized applications and deploy them using Google Kubernetes Engine by taking this course (GKE). Participants investigate and install different components of the solution, such as infrastructure pieces like pods and containers, through a combination of talks, live demos, and hands-on laboratories.

### **48. What does it mean to have "binary authorization" in the Google cloud?**

The Binary Authorization is utilized by both Google Kubernetes Engine (GKE) and Cloud Run to verify that only legitimate container images are deployed. This is done to prevent any errors from occurring. You may ensure that only photographs that have been signed by reputable authorities were used in production by utilizing Binary Authorization, which enables you to enforce signature validation during the deployment phase.

You can have peace of mind knowing that only validated images are utilized in the build and release process if you validate your images before beginning those processes. You will have a greater degree of command over your containerized infrastructure as a result of this.

### **49. In relation to cloud services, what do you believe to be the most essential factors to take into account?**

When it comes to cloud services, scalability, adaptability, and cost-effectiveness are three of the most important factors to consider.

One of the most important features of a cloud service is the ability to raise or decrease consumption without incurring any additional costs. This is one of the most valuable qualities of a cloud service. This is a significant advantage in comparison to more conventional, on-premise systems, the expansion of which might often be financially impossible.

The versatility of cloud services is another thing that sets them apart. A cloud service provides businesses with a great deal of versatility in terms of pricing and service levels, giving them the ability to find the arrangement that is best suited to their particular necessities.

The inexpensive cost of cloud services is another significant advantage of using these services. Because of the lower overhead costs involved with their mode of distribution, online services are frequently more cost-effective than on-premise ones. It may be possible to acquire them on a "pay as you go" basis, which could result in additional savings on costs.

### **50. Who or what are system integrators when it comes to the Cloud?**

It's possible that the cloud is made up of a lot of different and complicated elements. A system integrator in the cloud is required for a variety of cloud-related tasks, including the development of a cloud, the integration of its numerous components, and the establishment of a hybrid or private cloud network.

### **51. How do the different deployment models for software as a service (SaaS) work, and what are they?**

Each customer in a single multi-tenant SaaS environment has their own dedicated set of resources, so they do not need to worry about sharing them with other tenants.

A more nuanced approach to multi-tenancy: The same collection of features is made accessible to multiple tenants through the utilization of a SaaS deployment strategy that pools the resources at their disposal.

### **52. Before we can implement cloud computing, we need to have a better understanding of why it is necessary to have a virtualization platform.**

Using virtualization technology, it is possible to generate a variety of different things, including operating systems, virtual storage, networks, applications, and so on. Utilizing virtualization will allow for the expansion of the currently installed infrastructure. Many applications and operating systems are compatible with the servers that are now available.

### **53. Which accounts for which services are now available? How do you intend to go about making one of these?**

Sadly, this is a typical question asked at interviews for Google Cloud jobs. The progress of project-specific services can be monitored through the use of service accounts. They are utilized in order to grant permission to Google Compute Engine to act on the user's behalf, hence providing the service access to data that is considered to be relatively harmless.

The Google Cloud Platform Console and the Google Compute Engine service accounts are the most often used of the many different kinds of service accounts that Google offers.

It is not necessary for the user to create an account for the service on their own. This file is automatically generated by the Compute Engine whenever a new instance of something is created. When an instance is created in Google Compute Engine, an administrator has the ability to restrict the privileges of the service account that is connected with the instance.

****1. What is a cloud?****

A cloud can be defined as a combination of network, hardware, storage, and interface. This combination is responsible for delivering cloud computing as a service to its users across the globe. Companies primarily use cloud computing for fulfilling the requirements of various stakeholders. Every cloud computing system has two major participants -- the service provider who is responsible for setting up and managing the cloud services and the end-user who uses cloud services for a host of reasons.

****2. Tell us about the various layers of Google Cloud.****

There are four layers of the Google cloud platform:

1. Infrastructure as a Service (IaaS): This is the basic layer that consists of hardware and network.
2. Platform as a Service (PaaS): This is the second layer that provides the necessary resources for building applications along with the infrastructure.
3. Software as a Service (SaaS): Saas is the third layer that allows the user to access the various cloud offerings from the service provider.
4. Business Process Outsourcing: This is the final layer even though BPO is not a technical solution. BPO is concerned with outsourcing services to a vendor to take care of any issues faced by the end-user while using the cloud computing services.

****3. Can you list out the major features of the Google Cloud Platform?****

The key features include:

* Ability to create custom machine types where you can vary the CPU, memory, and storage.
* Resizing the disk in-pace can be carried out without any downtime.
* GCP has various pre-installed tools that can be used for controlling different processes.
* There are two hosting options. Users can either opt for App Engine, which is Platform as a Service, or Compute Engine, which is Infrastructure as a Service.

****4. What are the different development models of cloud computing?****

* ****Public cloud:**** Anyone can access a public cloud as the service is available via a subscription. Accessible resources of such a cloud include OS, CPU, memory, and storage.
* ****Private cloud:**** Such a cloud can only be accessed by a single organization and its employees. It is also known as internal cloud or corporate cloud.
* Hybrid cloud: A combination of public and private clouds creates a hybrid cloud. It consists of mixed computing, storage, and services environment and is popular with organizations looking for improved scalability and control.
* ****Community cloud:**** With a community cloud, several organizations can use the same service for sharing information.

****5. What are the various Google Cloud storage services?****

The common ones are:

* Google Workspace
* Cloud Storage (Object storage)
* Persistent disk
* Filestore
* Data Transfer Services
* Transfer Appliance
* Cloud Storage for Firebase
* Local SSD
* Cloud Storage (Archival storage)

****6. What is the use of bucket in Google Cloud Storage?****

Buckets can be defined as basic containers used for storing data. Anything that you store on Cloud Storage must be stored in a bucket. There is no limit on the creation or deletion of the buckets. However, unlike directories and files, buckets cannot be nested.

****7. What is Google Cloud Messaging?****

It is a mobile notification service that allows third-party application developers to send notification data from developer-run servers to applications. It has been deactivated since April 2018 and replaced by Firebase Cloud Messaging.

****8. How does cloud computing help to save costs?****

Cloud computing doesn’t involve too many human resources. It also works based on pooling different resources where users only pay for what they use.

****9. What is the relationship between Google Compute Engine and Google App Engine?****

Google Compute Engine is the IaaS product, while Google App Engine is a PaaS product. They are complementary to each other. The App Engine is used for running web-based applications and mobile backends, while you can use Compute Engine for implementing any customized business logic or even run your own storage system.

****10. What do you know about Google Cloud APIs?****

The primary use of APIs is to automate the workflow through your preferred language. APIs enable communication with various ****Google**** services and also facilitate their integration to other services. It can also be defined as a gateway that allows access to direct and indirect cloud infrastructure and various software services to end-users.

## **Q1. What is Google Cloud Platform?**

## **Ans**

Google Cloud Platform is a cloud-based platform administered by Google. This is a suite of virtual machines, computing, networking, storage, big data, database and management services, machine learning, and much more. All of these services operate on the same Google infrastructure, which is used by Google for its end-user products such as Google Search, Gmail, and YouTube.

## **Q2. List some benefits of using the Google cloud platform.**

## **Ans**

* GCP delivers competitive pricing.
* Google Cloud servers make it possible to access information from everywhere.
* GCP delivers performance and services that are generally better than other cloud hosting services.
* Google Cloud delivers quick and effective updates for servers and security.
* The Google Cloud Platform's security level is exemplary; the cloud networks and platforms are secure and encrypted using different security measures.

## **Q3. What is Google Cloud Platform features?**

## **Ans**

Object storage that's secure, durable, and scalable. Command-line tools and libraries for Google Cloud. Relational database services for MySQL, PostgreSQL, and SQL Server. Managed environment for running containerized apps. Data warehouse for business agility and insights.

## **Q4. What is difference between AWS and GCP?**

## **Ans**

Google Cloud is a suite of Google's public cloud computing resources & services whereas AWS is a secure cloud service developed and managed by Amazon. Google Cloud offers Google Cloud Storage, while AWS offers Amazon Simple Storage Services.

## **Q5. **Describe the security aspects that the cloud offers?****

## **Ans**

* **Access control**: it offers control to the users who can control the access to other users who are entering the cloud ecosystem
* **Identity management**: this provides the authorization for the application services
* **Authorization and authentication**: this security feature lets only the authenticated and authorized users access the applications and data.

## 

## **Q6. **What are system integrators in Cloud Computing?****

## **Ans**

The cloud can consist of multiple components that can be complex. The system integrator in the cloud is the strategy that provides the process of designing the cloud, integrating the various components for creating a hybrid or a private cloud network among other things.

## **Q7. **What are the various components of the Google Cloud Platform?****

## **Ans**

* Google Compute Engine
* Google Cloud Container Engine
* Google Cloud Storage
* Google Cloud App Engine
* Google Cloud Dataflow
* Google Cloud Machine Learning Engine
* Google BigQuery Service
* Google Cloud Job Discovery
* Google Cloud Endpoints
* Google Cloud Test Lab

## **Q8. **What are the main advantages of using Google Cloud Platform?****

## **Ans**

* GCP offers competitive pricing
* Google Cloud servers allow access to information from anywhere
* GCP has an overall better performance and service compared to other hosting cloud services
* Google Cloud provides speedy and efficient server and security updates
* The security level of Google Cloud Platform is exemplary; the cloud platform and networks are secured and encrypted with various security measures.

## **Q9. **What are the various layers in the cloud architecture?****

## **Ans**

* **Physical layer:** This constitutes the physical servers, network, and other aspects
* **Infrastructure layer:** This layer includes storage, virtualized layers, and so on
* **Platform layer**: This includes the operating system, apps, and other aspects
* **Application layer**: This is the layer that the end-user directly interacts with.

## **Q10. **What are the libraries and tools for cloud storage on GCP?****

## **Ans**

JSON API and XML API are at the core level for the cloud storage on Google Cloud Platform. But along with these, Google also provides the following to interact with the cloud storage.

* **Google Cloud Platform Console** to perform basic operations on objects and buckets
* **Cloud Storage Client Libraries** that provides programming support for various languages
* **Gsutil Command-line Tool** provides a CLI for the cloud storage

## **Q11. **What is “EUCALYPTUS” in the context of cloud computing?****

## **Ans**

“EUCALYPTUS” stands for “Elastic Utility Computing Architecture for Linking Your Programs To Useful Systems”, which is an open-source cloud computing infrastructure that is used for deploying cloud clusters. Using the “[EUCALYPTUS](https://www.eucalyptus.cloud/" \t "https://www.mytectra.com/interview-question/_blank)”, you can build public, private, and hybrid cloud platforms. You can even have your own data center in the cloud and this can be used to harness its functionality in your organization.

## **Q12. **What is Google Compute Engine?****

## **Ans**

Google Cloud Engine is the basic component of the Google Cloud Platform. It is an IaaS that provides flexible Windows and Linux-based virtual machines that are self-managed and hosted on the Google infrastructure. The virtual machines can run on local, durable storage options, and KVM.

For the purpose of control and configuration, Google Cloud Engine also includes REST-based API. It integrates with other GCP technologies (Google Cloud Storage, Google App Engine, Google BigQuery, etc.) that help extend its computational ability thus creating more complex and sophisticated applications.

## **Q13. **What are the different methods for the authentication of Google Compute Engine API?****

## **Ans**

* Through client library
* Using OAuth 2.0
* Directly using an access token

## **Q14. **What are some of the popular open-source cloud computing platforms?****

## **Ans**

* OpenStack
* Cloud Foundry
* Docker
* Apache Mesos
* KVM

## **Q15. **Explain what are the different modes of software as a service (SaaS)?****

## **Ans**

* Single multi-tenancy: In this type of SaaS you have your own independent resources that you don’t share with anybody
* Fine grain multi-tenancy: In this type of SaaS deployment the resources are shared between multiple tenants even though the functionalities remain the same.

## **Q16. **What is the benefit of API in the cloud domain?****

## **Ans**

* You don’t have to write the complete program
* You can easily communicate between one application and another
* You can easily create applications and link them to the cloud services
* It seamlessly connects two applications in a secure manner.

## **Q17. **Mention what is the difference between elasticity and scalability in cloud computing?****

## **Ans**

Scalability in the cloud is the way in which you increase the ability to service additional workloads either by adding new servers or accommodating them within the existing servers. Elasticity is the process by which you can either add or remove virtual machines depending on the requirement in order to avoid wastage of resources and reduce costs.

## **Q18. **What are the service accounts?****

## **Ans**

Service accounts are the special accounts related to a project. They are used for the authorization of Google Compute Engine in order to be able to perform on behalf of the user thus receiving access to non-sensitive data.

There are different service accounts offered by Google but mainly, users prefer to use Google Cloud Platform Console and Google Compute Engine service accounts.

The user doesn’t need to create a service account manually. It is automatically created by the Compute Engine whenever a new instance is created. Google Compute Engine also specifies the scope of the service account for that particular instance when it is created.

## **Q19. **What is Google BigQuery? What are the benefits of BigQuery for data warehouse practitioners?****

## **Ans**

Google BigQuery is used as a data warehouse and stores all the analytical data in an organization. It organizes the data table into datasets.

Some of the benefits of BigQuery for the data warehouse practitioners are:

* BigQuery allocates query and storage resources depending on the requirement and usage. Therefore, it doesn’t require the provisioning of resources before usage.
* It can store data in different formats for efficient storage management. For example, Google’s distributed file system, proprietary format, proprietary columnar format, query access pattern, etc.
* It is fully maintained and managed without any downtime or hindrance.
* It provides backup and disaster recovery at a broader level. Users can easily undo changes and revert to a previous state without making a request for the backup recovery.

## **Q20. **What do you know about Google Cloud SDK?****

## **Ans**

Google Cloud SDK (Software Development Kit) is a set of tools that are used in the management of applications and resources that are hosted on the Google Cloud Platform. It is comprised of the gcloud, gsutil, and bqcommand line tools.  
Google Cloud SDK runs only on specific platforms like Windows, Linux, and macOS and requires Python 2.7.x. Other specific tools in the kit may have additional requirements as well.

### ****What is Google Cloud Platform?****

Google Cloud Platform is a cloud platform that is managed by Google. It is a set of Compute, Storage, Virtual Machine, Networking, Big Data, Machine Learning, Databases, and Management services. These services run on the same infrastructure of Google that Google uses for its end-user products like YouTube, Gmail, and Google Search.

### ****What are the layers of cloud computing?****

The three layers of cloud computing are:

* Infrastructure as a Service (IaaS)
* Software as a Service (SaaS)
* Platform as a Service (PaaS)

### ****What is API? What are it’s uses?****

API stands for Application Programming Interface. It has the following uses:

* Eliminating the need to write fully-fledged programs.
* Providing instructions to set up communication between one or more applications.
* Allowing easy creation of applications and linking the cloud services with other systems.

### ****What does Google Cloud Healthcare API do?****

The Google Cloud Healthcare API makes data interchange between healthcare apps and Google Cloud solutions simple and standardised. With support for common healthcare data standards such as HL7® FHIR®, HL7® v2, and DICOM®, the Cloud Healthcare API delivers a fully managed, scalable, enterprise-grade development environment for building clinical and analytics solutions safely on Google Cloud.

### ****What is a subnet?****

A subnet is none other than a segmented piece of a larger network. Particularly, subnets are a logical partition of an IP network into multiple, smaller network segments. Various organizations use them to sub-divide larger networks into smaller and more efficient subnetworks.

### ****Mention some services offered by GCP.****

Some of the commonly used services of GCP are:

* Computing and hosting
* Databases
* Storage
* Networking
* Machine learning
* Big data

### ****What do you mean by Google App engine?****

Google App Engine (GCP App Engine) is a serverless platform that allows you to run your code directly while also ensuring that your app is available. Google will take care of all of your servers and other equipment. Furthermore, when your site’s traffic develops, GCP App Engine is responsible for delivering all built-in services and APIs, and you only pay for the resources you use.

### ****What are the different models for deployment in cloud computing?****

The deployment models in cloud computing are:

* private
* public
* hybrid cloud

### ****Explain the different layers of cloud architecture.****

The different layers of cloud architecture are:

* Physical layer: constitutes of the physical servers, network, and other aspects
* Platform layer: Includes the operating system, apps, and other aspects
* Infrastructure layer: Consists of storage, virtualized layers, and so on
* Application layer: The layer that the end-user directly interacts with.

### ****Mention the roles of IAM?****

The types of roles in IAM are as follows:

* Basic roles: Includes the Owner, Editor, and Viewer roles that existed prior to the introduction of IAM.
* Predefined roles: Provides granular access for a specific service.
* Custom roles: Provides granular access according to a user-specified list of permissions.

### ****How is GCP beneficial?****

The main advantages of using Google Cloud Platform are:

* Google Cloud servers allow you to have access to your information and data anywhere.
* GCP has an overall increased performance and service
* It offers much better pricing deals in comparison to the other cloud service providers
* Google Cloud is very fast in providing updates about server and security in an efficient manner
* The Google Cloud platform and networks are secured and encrypted with various security measures.

### ****How do you select database solution?****

The best database for a system depends on the availability, consistency, durability, partition tolerance, latency, scalability, and query capability needs. For various subsystems, different systems employ different database solutions, which are then enabled to boost performance. Furthermore, choosing the improper database solution and features for a system can result in decreased performance.

### ****What does VPC stand for?****

VPC stands for Virtual Private Cloud.

### ****What is the use of VPC?****

A virtual private cloud (VPC) is one of the most efficient ways to connect to cloud resources from one’s own data centre. Each instance is assigned a private IP address that can be accessed from your data centre once you connect your data centre to the VPC where your instances are located. As a result, you can access resources in the public cloud as if they were on your own private network.

### ****What is Google Cloud SDK?****

The Google Cloud SDK, or Software Development Kit, is a suite of tools for managing Google Cloud Platform applications and resources. It includes the command-line utilities gsutil, gcloud, and bqcommand. Furthermore, the Cloud SDK downloads the gcloudtool automatically.

### ****Mention some practices of cost-optimization.****

Some prominent practices of cost optimization are:

* Evaluate performance requirements: Determine the priority of applications and what minimum performance you require of them.
* Use scalable design patterns: Improve performance and scalability with auto-scaling, compute choices, and storage configurations.
* Identify and implement cost-saving approaches: Evaluate the cost for each running service while prioritizing the optimization for service availability and cost.

### ****What is the full form of GKE?****

GKE stands for Google Kubernetes Engine.

### ****What are some of the features of GKE?****

Some of the features of GKE are:

* Autopilot mode of operation- Optimized cluster with pre-configured workload settings offers a nodeless experience. Maximizes operational efficiency and bolsters the security of your applications by restricting access only to Kubernetes API and safeguarding against node mutation. Payment to be made only for your running pods, not system components or operating system overhead.
* Kubernetes applications-Enterprise-ready containerized solutions with prebuilt deployment templates, featuring portability, consolidated billing, and simplified licensing. These are not just container images, but open source, Google-built, and commercial applications that increase developer productivity, available now on Google Cloud Marketplace.
* Pod and cluster auto-scaling-Horizontal pod autoscaling based on CPU utilization or custom metrics, cluster autoscaling that works on a per-node-pool basis, and vertical pod auto-scaling that continuously analyzes the CPU and memory usage of pods and dynamically adjusts their CPU and memory requests in response. Automatically scales the node pool and clusters across multiple node pools, based on changing workload requirements.

### ****How can you achieve security, privacy, and compliance?****

One can achieve security, privacy, and compliance by-

* Managing risk with controls.
* Implementing compute security controls.
* Managing authentication and authorization.
* Securing the network.
* Building with application supply chain controls.
* Implementing data security controls.
* Auditing infrastructure with audit logs.

### ****What are the types of migrations?****

The three major types of migrations are:

* Lift and shift
* Rip and replace
* Improve and move

### ****What are Customer-managed encryption keys?****

If you need more control over the keys used to encrypt data at rest within a Google Cloud project, certain Google Cloud services offer the option to safeguard data connected to those services using encryption keys owned by the client under Cloud KMS. Customer-managed encryption keys are the name for these keys. When you use CMEK to safeguard data in Google Cloud services, you have complete control over the CMEK.

### ****What are the objectives of setting up a CI/CD pipeline for your data-processing workflow?****

The objectives of setting up a CI/CD pipeline are:

* Creating Cloud Storage buckets for your data.
* Configuring the build trigger.
* Forming the build, test, and production pipelines.
* Configuring the Cloud Composer environment.

### ****How do you plan Disaster Recovery?****

RTO and RPO are the primary goals for restoring availability. The first step in a disaster recovery strategy is to set up backups and redundant workload components. These must be determined according to the business’s demands, and a strategy must be implemented to fulfil these goals, taking into account the locations and functions of workload data and resources.

### ****Describe Google cloud deployment manager?****

Google Cloud Deployment Manager is an infrastructure deployment service that automatically creates and manages Google Cloud resources. Moreover, creates deployments that have a variety of Google Cloud services, such as Cloud Storage, Compute Engine, and Cloud SQL configured to work together.

### ****What is the role of cloud monitoring?****

Cloud Monitoring gathers data from Google Cloud and application instrumentation in the form of metrics, events, and metadata. The BindPlane service may also collect data from over 150 typical application components, on-premise systems, and hybrid cloud systems. The Google cloud operations suite ingests the data and generates insights through dashboards, charts, and alarms. BindPlane is provided free of charge as part of the Google Cloud initiative.

### ****What does IAM stand for?****

Identity and Access Management

### ****What is an Enterprise data warehouse?****

An Enterprise data warehouse is one that consists not only of an analytical database but multiple critical analytical components and procedures. It, therefore, includes data pipelines, queries, and business applications required to fulfill the workloads of the organization.

### ****What do you know about a data pipeline?****

A data pipeline is an application that processes data via a series of linked processing steps. To move data between information systems, extract, transform, and load (ETL), data enrichment, and real-time data analysis, data pipelines can be used. As a result, data pipelines can be executed as a batch process, which executes and processes data when it is run, or as a streaming process, which executes constantly and processes data as it enters the pipeline.

### ****What is the ETL procedure?****

In data warehousing, data pipelines are frequently used to perform an extract, transform, and load (ETL) method. ETL solutions run outside of the data warehouse, allowing the data warehouse’s resources to be focused on concurrent querying rather than data preparation and transformation. One disadvantage of performing the transformation outside of the data warehouse is that it necessitates learning new tooling and languages to represent the transforms.

### **[1) What is Google Cloud Computing?](https://www.onlineinterviewquestions.com/google-cloud-interview-questions/" \l "collapseUnfiled1)**

****Google Cloud Platform**** is a set of computing services that provides infrastructure as service, ****platform as service****, and ****serverless computing****. Services such as cloud data storage, data analytics, compute engine and machine learning are some examples of it. ****First released in 2008****, GCP is one of the popular cloud service platforms available in the market along with ****Amazon Web Service****, and ****Microsoft Azure****.

### **[2) What is VPC in the Google cloud platform?](https://www.onlineinterviewquestions.com/google-cloud-interview-questions/" \l "collapseUnfiled2)**

****Virtual Private Cloud**** ****(VPC)**** in ****GCP**** is a virtual network that provides connectivity to your VM instances of compute engine, ****GKE**** ****(Google Kubernetes Engine)**** clusters, and many other resources. The VPC provides much flexibility in controlling how the workloads connect regionally or globally. A single VPC can span multiple regions without communicating across the public internet.

### **[3) Enlist some major features provided by Google cloud platform?](https://www.onlineinterviewquestions.com/google-cloud-interview-questions/" \l "collapseUnfiled3)**

****Some of the major features of GCP are,****

* GCP provides an easy way to rightsize your Virtual machine resources such as CPU, RAM, and storage. The VM rightsizing recommendation feature gives you a glance at whether your machines are with the right size of resources.
* The Google cloud shell present with GCP has many pre-installed tools and lets you control the various processes from the shell. Some preinstalled tools are Docker, Gradle, Make, npm, nvm, pip, and more.
* You can easily create your custom machine type with varying resources of CPU, memory, storage with GCP.
* It has preemptible VMs so fault-tolerant jobs and batch jobs cost up to 70 % less than normal.
* The Cloud SQL feature present in GCP automatically checks the storage available in the database every 30 seconds and adds when it is needed.
* You can resize persistent disk in-pace without any downtime.

### **[4) List some alternatives of Google Cloud?](https://www.onlineinterviewquestions.com/google-cloud-interview-questions/" \l "collapseUnfiled4)**

****Some of the popular alternatives to GCP are,****

* Amazon Web Services
* Microsoft Azure
* Kahu
* Platform9
* Packet
* OpenStack

### **[5) List types of development models available in Cloud computing?](https://www.onlineinterviewquestions.com/google-cloud-interview-questions/" \l "collapseUnfiled5)**

****Four types of development models in Cloud computing are,****

* ****Public cloud -**** This type of cloud can be accessed by all on a subscription basis. The public can access resources such as OS, CPU, memory, and storage.
* ****Private cloud -**** This type of infrastructure is used by a single organization and not by the general public. They are typically more expensive to build than public clouds.
* ****Hybrid cloud -**** This infrastructure uses a combination of public and private clouds. It is used by many organizations to rapidly scale up their resources when needed.
* ****Community cloud -**** Here, multiple organizations share their resource and create a pool which is restricted to the members of the community.

### **[6) List major components of the Google Cloud Platform?](https://www.onlineinterviewquestions.com/google-cloud-interview-questions/" \l "collapseUnfiled6)**

****Some major components of GCP are,****

* Compute engine such as App Engine, Kubernetes, etc.
* Storage and Database components.
* Networking components such as VPC, Cloud Armor, and more.
* Big Data components.
* Identity and Security tools like Cloud IAM, Cloud Identity, and more.
* Management tools like Trace, logging, and debugger.
* Developer tools like Cloud test lab, container builder, and more.
* Productivity and professional tools.

### **[7) What is Google Cloud SDK?](https://www.onlineinterviewquestions.com/google-cloud-interview-questions/" \l "collapseUnfiled7)**

****Google Cloud SDK**** is a set of command-line tools. It is used for the development of the Google cloud. With these tools, you can access the ****compute engine****, ****cloud storage****, ****bigquery****, and other services directly from the command line. It also comes with client libraries and ****API**** libraries. With these tools and libraries, you can work with VM instances, manage computer engine networks, firewalls & storage, and more.

### **[8) What is Google App Engine?](https://www.onlineinterviewquestions.com/google-cloud-interview-questions/" \l "collapseUnfiled8)**

****A Paas**** ****(Platform as a Service)**** product, Google App Engine provides scalable services to web app developers and enterprises. With this, developers can build and deploy a fully managed platform and scale when needed.

It has support for popular programming languages such as ****Java****, ****PHP****, ****Python****, ****C#****, ****.Net****, ****Go****, and ****Node.js****. It is also flexible so you can develop powerful applications.

### **[9) What is gcp storage?](https://www.onlineinterviewquestions.com/google-cloud-interview-questions/" \l "collapseUnfiled9)**

****GCP storage**** is a cloud storage service offered by ****Google****. It allows you to access your data from anywhere in the world at any time. This storage is highly durable, secured, and scalable. With this storage service, you can store your personal data, application data, client’s data, and more.

### **[10) What is bucket in Google Cloud Storage?](https://www.onlineinterviewquestions.com/google-cloud-interview-questions/" \l "collapseUnfiled10)**

****Buckets**** are the basic containers that are used to store the data. With buckets, you can organize data, and give control access. The bucket has a globally-unique name with a geographic location where the contents are stores. It also has a default storage class that is applied to the objects which don’t have a storage class specified and are added to the bucket. There is also no limit on the creation or deletion of the buckets.

### **[11) What is Object Versioning in GCP?](https://www.onlineinterviewquestions.com/google-cloud-interview-questions/" \l "collapseUnfiled11)**

****Object versioning**** is used to retrieve objects which are overwritten or deleted. Object versioning increases the storage costs but it provides security for objects when they are deleted or overwritten. On enabling the object versioning in the GCP bucket, a noncurrent version of the object is created every time when the object is overwritten or deleted. The properties used to identify a version of the object are generation and metageneration. Generation identifies the content generation while metageneration identifies the metadata generation.

### **[12) What is Serverless computing?](https://www.onlineinterviewquestions.com/google-cloud-interview-questions/" \l "collapseUnfiled12)**

In ****serverless computing****, the cloud service provider has a server running in the cloud and dynamically manages the allocation of resources. The provider provides the necessary infrastructure for the user to work on without any worries about the hardware. The users need to pay for the resources they have used. It simplifies the process of code deployment while removing any worries regarding scalability, maintenance for the users. It is a form of utility computing.

### **[13) What is Load Balancing in cloud computing?](https://www.onlineinterviewquestions.com/google-cloud-interview-questions/" \l "collapseUnfiled13)**

****Load Balancing**** is the process of distributing the computing resources and workloads in a ****cloud computing**** environment to manage the demands. It helps to achieve high performance for lower costs as the workload demands are efficiently managed with the allocation of resources. It uses the concept of scalability and agility to improve the availability of resources to the demands. It is also used to provide health check-ups for the cloud application. This feature is offered by all the major cloud vendors like AWS, GCP, Azure, etc.

### **[14) Explain what is BigQuery?](https://www.onlineinterviewquestions.com/google-cloud-interview-questions/" \l "collapseUnfiled14)**

****BigQuery**** is an enterprise warehouse service offered in the Google Cloud Platform. This highly-scalable cost-effective product has an in-memory data analysis engine and machine learning built-in. It gives you the option to quickly analyze the data in real-time and create analytical reports with the help of a data analytics engine. BigQuery can also process external data sources in object storage, transactional database, or spreadsheets.

### **[15) What is google cloud messaging?](https://www.onlineinterviewquestions.com/google-cloud-interview-questions/" \l "collapseUnfiled15)**

****Firebase**** or ****Google cloud messaging**** is a cross-platform ****(Android, iOS, Web)**** notification solution which lets you deliver and receive messages and notifications free of cost. With this, you can send messages or notify client apps or send messages to drive user reengagement. It gives you the option for versatile messages targeting such as distributing the message to single devices, to a group of devices or to subscribed devices.

### 1. In which of the VMs Persistent Disk Storage can be attached ?

Ans. Persistent Disk Storage can be attached to VMs in Google Compute Engine(GCE) and Google Kubernetes Engine(GKE).

### 2. When HDDs are preferred over SSDs storage ?

Ans. HDDs are usually preferred when storing large amounts of data and performing batch operations that are less sensitive to disk latency than interactive applications.

### 3. Which version of Redis is currently supported on Google Cloud ?

Ans. Redis 3.2

### 4. Which Service is used in Google Cloud(GCP) for In-Memory Cache ?

Ans. Memorystore

### 5. Which database service is used to scale databases resources vertically ?

Ans. Cloud SQL

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### 6. Which database service is used to ensure consistency and transaction integrity for extremely large amount of data ?

Ans. Cloud Spanner

### 7. Which Service is used for Data Warehouse and Analytics Applications to handle large amount of columns and rows ?

Ans. BigQuery

### 8. What are different NoSQL databases used in GCP ?

Ans. Below are the three NoSQL databases used in GCP :-

a) Cloud Datastore

b) Cloud Firestore

c) Cloud Bigtable

### 9. What is the main advantage of Using Cloud Firestore NoSQL database ?

Ans. Its main advantage is for storing, synchronizing and querying data across distributed applications like mobile apps.

### 10. Is Bigtable a wide-column database or document database ?

Ans. It is a wide-column database. Check more about Bigtable on **[Official](https://cloud.google.com/bigtable" \t "https://www.cyberithub.com/google-cloud-gcp-interview-questions-and-answers-in-2021/_blank)**Documentation.

### 11. What are different data storage systems available in Cloud Firestore ?

Ans. There are two data storage systems available in Cloud Firestore:-

a) Using Firestore in Datastore mode.

b) Using Firestore in Native mode.

### 12. How to Create a bucket name test\_bucket in GCP ?

Ans. gsutil mb gs://test\_bucket/

### 13. What is the syntax to create a bucket using gsutil command in GCP ?

Ans. gsutil mb gs://test\_bucket/

### 14. What is the permission required to create backups in GCP ?

Ans. datastore.databases.export

### 15. What is the permission required to import data in GCP ?

Ans. datastore.databases.import

### 16. What is the syntax to create a backup using gcloud command ?

Ans. gcloud -namespaces='[NAMESPACE]' gs://[BUCKET\_NAME]

### 17. What is the syntax to import a backup file in GCP ?

Ans. gcloud datastore import gs://[BUCKET]/[PATH]/[FILE].overall\_export\_metadata

### 18. Which BigQuery command can be used to estimate how much data will be scanned ?

Ans. bq --location=[LOCATION] query --use\_legacy\_sql=false --dry\_run [SQL\_QUERY]

### 19. What is the command to create a topic in GCP ?

Ans. gcloud pubsub topics create [TOPIC-NAME]

### 20. What is the command to create a subscription in GCP ?

Ans. gcloud pubsub subscriptions create [SUBSCRIPTION-NAME] --topic [TOPIC-NAME]

### 21. How to configure cbt in Cloud SHELL ?

Ans. Use below command to configure cbt in cloud shell:-  
gcloud components update  
gcloud components install cbt

### 22. How to [create a table](https://www.cyberithub.com/how-to-create-table-in-mysql/) "example-table" using cbt command ?

Ans. cbt createtable example-table

### 23. How to [list all the tables using cbt command](https://www.cyberithub.com/find-command-list-all-files-and-directories-with-777-permissions-in-linux/) ?

Ans. cbt ls

### 24. How to create a family called "test-family" using cbt command ?

Ans. cbt createfamily example-table test-family

### 25. How to display the contents of table "example-table" ?

Ans. cbt read example-table

### 26. What is the command to [create a cluster named "Test-Cluster" in "us-west2-a" zone](https://www.cyberithub.com/create-and-configure-zone-in-solaris/) ?

Ans. gcloud dataproc clusters create Test-Cluster --zone us-west2-a

### 27. How to Submit a Job "example.jar" on the Cluster "Test-Cluster" Using gcloud command ?

Ans. gcloud dataproc jobs submit spark --cluster Test-Cluster --jar example.jar

### 28. What is the command syntax to manually change the Bucket Storage Class ?

Ans. gsutil rewrite -s [STORAGE\_CLASS] gs://[PATH\_TO\_OBJECT]

### 29. How to [Copy hello.txt file](https://www.cyberithub.com/linux-copy-file-command-examples/) from /root folder to Test-Bucket ?

Ans. gsutil cp /root/hello.txt gs://Test-Bucket/

### 30. What is the command to download hello.txt file from Test-Bucket bucket to /root directory ?

Ans. gsutil cp gs://hello.txt /root/

### 31. Which parameter is used to tell BigQuery to automatically detect the schema of a file on import ?

Ans. --autodetect

### 32. What is Pub/Sub in Google Cloud ?

Ans. It is an asynchronous messaging service that decouples services that produce events from services that process events.

### 33. What is the [command to Install Kubectl command line tool in Google](https://www.cyberithub.com/googler-best-tool-for-google-search-from-linux-rhel-centos-7-8-command-line-terminal/) Cloud ?

Ans. gcloud components install kubectl

### 34. What is the command to authenticate through Docker Container Registry ?

Ans. gcloud auth configure-docker

### 35. How to set project in GCP using gcloud command ?

Ans. gcloud config set project <project\_id>

### 36. How to set Compute zone to "us-east1" in GCP using gcloud command ?

Ans. gcloud config set compute/zone us-east1

### 37. How to create a Google [Kubernetes Clusters](https://www.cyberithub.com/3-easy-methods-to-deploy-create-pods-in-kubernetes-cluster/) "test-cluster" using gcloud command ?

Ans. gcloud container clusters create test-cluster --num-nodes=2

### 38. How to check all the instances running in GCP using gcloud command ?

Ans. gcloud compute instances list

### 39. Which Google Kubernetes Clusters location type provides high availability ?

Ans. Regional

### 40. Which of the operating systems support Google Cloud SDK ?

Ans. Below operating systems supports Google Cloud SDK:-

a)Linux

b)Debian/Ubuntu

c)RedHat/CentOS

d)MacOS

e)Windows