Cloud Computing Interview Question

# Source 1: <https://career.guru99.com/top-40-interview-questions-on-cloud-computing/>

**1)      What are the advantages of using cloud computing?AAA**

The advantages of using cloud computing are

a)      Data backup and storage of data

b)      Powerful server capabilities

c)       SaaS ( Software as a service)

d)      Information technology sandboxing capabilities

e)      Increase in productivity

f)       Cost effective & Time saving

*Cloud computing is a model for allowing convenient, on demand access from anywhere, to a shared pool of computing resource. The computing resource may include servers, storage, networking, applications and various services that can easily provisioned and revoked.*

*Five fundamental of cloud computing:*

1. *On demand: just pay for certain duration and use till that time.*
2. *Broad Network Access: can be connected from any size of standard size device.*
3. *Resource pooling: Can be shared with many clients*
4. *Elasticity: can bulge or shrink the usage of resources as required.*
5. *metering: tracking and monitoring of resource usage and its costs.*

*Three options of cloud deployments:*

1. *public: Public cloud is open to be used by any user by paying for the usage. The operation and management of the cloud will also be taken care by the cloud service provider.*
2. *private: Private could is basically owned by a single enterprise. Operation and management of the could will also be taken care by that enterprise.*
3. *Hybrid: Hybrid could provide access to a user to both private and public cloud through a single management environment.*

*Three types of services works in cloud:*

1. *SaaS: Software as a service lets a user to use that application without having any control on the infrastructure of the application. Examples are salesforce, Gmail and other.*
2. *PaaS: Platform as a service lets a user to use that platform to build their own cloud applications by using languages, libraries, tools and services. The user has the control over the application. Also, have some control over the configuration of hosting environments, However, no control on the underlying cloud infrastructure. Example: CloudFoundry.*
3. *IaaS: Infrastructure as a service quickly and easily provision full computing resources, including processing, storage and networks without the user having control on cloud infrastructure. Example: Suse openstack cloud.*

*The best part about cloud computing esp public clouds is that any user can themselves subscribe it resources to them, use them for the intended duration and can shut them down. All they need to pay is precisely the resource they used.*

*Major companies in the field of cloud computing providing SAAS, PAAS and IAAS are Amazon (AWS EC2, beanstack, s3 and other), Icloud (Exclusive apple user), Microsoft Azure, google Cloud, IBM smart cloud.*

**2)      Mention platforms which are used for large scale cloud computing?**

The platforms that are used for large scale cloud computing are

a)      Apache Hadoop

b)      MapReduce

**3)      Explain different models for deployment in cloud computing?**

The different deployment models in cloud computing are

a)      Private Cloud

b)      Public Cloud

c)       Community Cloud

d)      Hybrid Cloud

**4)      What is the difference in cloud computing and computing for mobiles?**

Mobile computing uses the same concept as cloud computing.   Cloud computing becomes active with the data with the help of internet rather than individual device. It provides users with the data which they have to retrieve on demand.  In mobile, the applications runs on the remote server and gives user the access for storage and manage.

**5)      How user can gain from utility computing?**

Utility computing allows the user to pay only for what they are using. It is a plug-in managed by an organization which decides what type of services has to be deployed from the cloud.

Most organizations prefer hybrid strategy.

**6)       For a transport in cloud how you can secure your data?**

To secure your data while transporting them from one place to another, check that there is no leak with the encryption key implemented with the data you are sending.

**7)      What are the security aspects provided with cloud?**

a)      Identity management: It authorizes the application services

b)      Access control: permission has to be provided to the users so that they can control the access of another user who is entering into the cloud environment.

c)       Authentication and Authorization: Allows only the authorized and authenticated user only to access the data and applications

**8)      List out different layers which define cloud architecture?**

The different layers used by cloud architecture are

a)      CLC or Cloud Controller

b)      Walrus

c)       Cluster Controller

d)      SC or Storage  Controller

e)      NC or Node Controller

**9)      What are system integrators in Cloud Computing?**

In Cloud Computing, systems integrator provides the strategy of the complicated process used to design a cloud platform. Integrator allows to create more accurate hybrid and  private cloud network, as integrators have all the knowledge about the data center creation.

**10)   What is “ EUCALYPTUS” stands for?**

“ EUCALYPTUS” stands for Elastic Utility Computing Architecture For Linking Your Programs To Useful Systems”

**11)    Explain what is the use of “EUCALYPTUS” in cloud computing?**

“Eucalyptus” is an open source software infrastructure in cloud computing, which is used to implement clusters in cloud computing platform. It is used to build public, hybrid and private clouds. It has the ability to produce your own data center into a private cloud and allows you to use its functionality to many other organizations.

**12)   What is the requirement of virtualization platform in implementing cloud?**

The requirement of virtualization platform in implementing cloud is to

a)      Manage the service level policies

b)      Cloud Operating System

c)       Virtualization platforms helps to keep the backend level and user level concepts different from each other

**13)   Before going for cloud computing platform what are the essential things to be taken in concern by users?**

a)      Compliance

b)      Loss of data

c)       Data storage

d)      Business continuity

e)      Uptime

f)       Data integrity in cloud computing

**14)   Mention some open source cloud computing platform databases?**

The open source cloud computing platform databases are

a)      MongoDB

b)      CouchDB

c)       LucidDB

**15)   What are the security laws which are implemented to secure data in a cloud ?**

The security laws which are implemented to secure data in cloud are

a)      Processing: Control the data that is being processed correctly and completely in an application

b)      File: It manages and control the data being manipulated in any of the file

c)       Output reconciliation:  It controls the data which has to be reconciled from input to output

d)      Input Validation: Control the input data

e)      Security and Backup: It provides security and backup it also controls the security breaches logs

**16)   Mention the name of some large cloud providers and databases?**

a)      Google bigtable

b)      Amazon simpleDB

c)       Cloud based SQL

**17)   Explain the difference between cloud and traditional datacenters?**

a)      The cost of the traditional data center is higher due to heating  and hardware/software issues

b)      Cloud gets scaled when the demand increases.  Majority of the expenses are spent on the maintenance of the data centers,  while that is not the case with cloud computing

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

a)      Simple multi-tenancy :  In this each user has independent resources and are different from other users, it is an efficient mode.

b)      Fine grain multi-tenancy:  In this type, the resources can be shared by many but the functionality remains the same.

**19)**  **What is the use of API’s in cloud services?**

API’s ( Application Programming Interface) is very useful in cloud platforms

a)      It eliminates the need to write the fully fledged programs

b)      It provides the instructions to make communication between one or more applications

c)       It allows easy creation of applications and link the cloud services with other systems

**20)   What are the different data centers deployed for cloud computing?**

Cloud computing consists of different datacenters like

a)      Containerized Datacenters

b)      Low Density Datacenters

**21)   In cloud computing what are the different layers?**

The different layers of cloud computing are:

a)      SaaS: Software as a Service (SaaS), it provides users access directly to the cloud application without installing anything on the system.

b)      IaaS: Infrastructure as a service, it provides the infrastructure in terms of hardware like memory, processor speed etc.

c)       PaaS: Platform as a service, it provides cloud application platform for the developers

**22)   How important is the platform as a service?**

Platform as a service or PAAS is an important layer in cloud computing.  It provides application platform for providers.  It is responsible for providing complete virtualization of the infrastructure layer and makes it work like a single server.

**23)   What is a cloud service?**

Cloud service is used to build cloud applications using the server in a network through internet.  It provides the facility of using the cloud application without installing it on the computer. It also reduces the maintenance and support of the application which are developed using cloud service.

**24)   List down the three basic clouds in cloud computing?**

a)      Professional cloud

b)      Personal cloud

c)       Performance cloud

**25)   As a infrastructure as a service what are the resources that are provided by it?**

IAAS ( Infrastructure As A Service) provides virtual and physical resources that are used to build a cloud. It deals with the complexities of deploying and maintaining of the services provided by this layer. Here the infrastructure is the servers, storage and other hardware systems.

**26)   What are the business benefits involved in cloud architecture?**

The benefits involved in cloud architecture is

a)      Zero infrastructure investment

b)      Just in time infrastructure

c)       More efficient resource utilization

**27)   What are the characteristics of cloud architecture that separates it from traditional one?**

The characteristics that makes cloud architecture above traditional architecture is

a)      According to the demand cloud architecture provides the hardware requirement

b)      Cloud architecture is capable of scaling the resource on demand

c)       Cloud architecture is capable of managing and handling dynamic workloads without failure

**28)   Mention what is the difference between elasticity and scalability in cloud computing?**

Scalability is a characteristics of cloud computing through which increasing workload can be handled by increasing in proportion the amount of resource capacity.  Whereas, elasticity, is being one of the characteristics that  highlights the concept of commissioning and decommissioning of a large amount of resource capacity.

**29)   Mention the services that are provided by Window Azure Operating System?**

Window Azure provides three core services which are given as

a)      Compute

b)      Storage

c)       Management

**30)   In cloud architecture what are the different components that are required?**

a)      Cloud Ingress

b)      Processor Speed

c)       Cloud storage services

d)      Cloud provided services

e)      Intra-cloud communications

**31)   In cloud architecture what are the different phases involved?**

a)      Launch Phase

b)      Monitor Phase

c)       Shutdown Phase

d)      Cleanup Phase

**32)   List down the basic characteristics of cloud computing?**

a)      Elasticity and Scalability

b)      Self-service provisioning and automatic de-provisioning

c)       Standardized interfaces

d)      Billing self service based usage model

**33)   In cloud architecture what are the building blocks?**

a)      Reference architecture

b)      Technical architecture

c)       Deployment operation architecture

**34)   Mention in what ways cloud architecture provide automation and performance transparency?**

To provide the performance transparency and automation there are many tools used by cloud architecture.  It allows to manage the cloud architecture and monitor reports. It also allows them to share the application using the cloud architecture.  Automation is the key component of cloud architecture which helps to improve the degree of quality.

**35)** **In cloud computing explain the role of performance cloud?**

Performance cloud is useful in transferring maximum amount of data instantly.  It is used by the professionals who work on high performance computing research.

**36)   Explain hybrid and community cloud?**

Hybrid cloud: It consists of multiple service providers. It is a combination of public and private cloud features. It is used by the company when they require both private and public clouds both.

Community Cloud:  This model is quite expensive and is used when the organizations having common goals and requirements, and are ready to share the benefits of the cloud service.

**37)   In cloud what are the optimizing strategies?**

To overcome the maintenance cost and to optimize the resources ,there is a concept of three data center in cloud which provides recovery and back-up in case of disaster or system failure and keeps all the data safe and intact.

**38)   What is Amazon SQS?**

To communicate between different connectors Amazon SQS message is used, between various components of AMAZON, it acts as a communicator.

**39)   How buffer is used to Amazon web services?**

In order to make system more efficient against the burst of traffic or load, buffer is used. It synchronizes different component . The component always receives and processes the request in an unbalanced way.  The balance between different components are managed by buffer, and makes them work at the same speed to provide faster services.

**40)   Mention what is Hypervisor in cloud computing and their types?**

Hypervisor is a Virtual Machine Monitor which manages resources for virtual machines. There are mainly two types of hypervisors

Type 1: The guest Vm runs directly over the host hardware, eg Xen, VmWare ESXI

Type 2: The guest Vm runs over hardware through a host OS, eg Kvm, oracle virtualbox

# Source 2: <https://www.javatpoint.com/cloud-computing-interview-questions>

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

Cloud computing is an internet based new age computer technology. It is the next stage technology that uses the clouds to provide the services whenever and wherever the user need it.It provides a method to access several servers world wide.

### **2) What are the benefits of cloud computing?**

The main benefits of cloud computing are:

* Data backup and storage of data.
* Powerful server capabilities.
* Incremented productivity.
* Very cost effective and time saving.
* Software as Service known as SaaS.

### **3) What is a cloud?**

A cloud is a combination of networks ,hardware, services, storage, and interfaces that helps in delivering computing as a service. It has three users :

1. End users
2. Business management users
3. cloud service provider

### **4) What are the different data types used in cloud computing?**

There are different data types in cloud computing like emails, contracts, images , blogs etc. As we know that data is increasing day by day so it is needed to new data types to store these new data. For an example, if you want to store video then you need a new data type.

### **5) Which are the different layers that define cloud architecture?**

Following are the different layers that are used by cloud architecture:

* CLC or Cloud Controller
* Walrus
* Cluster Controller
* SC or Storage Controller
* NC or Node Controller

### **6) Which platforms are used for large scale cloud computing?**

The following platforms are used for large scale cloud computing:

* Apache Hadoop
* MapReduce

### **7) What are the different layers in cloud computing? Explain working of them.**

There are 3 layers in the hierarchy of cloud computing.

**Infrastructure as a service (IaaS):**It provides cloud infrastructure in terms of hardware as like memory, processor, speed etc.

**Platform as a service (PaaS):**It provides cloud application platform for the developer.

**Software as a service (SaaS):**:It provides the cloud applications to users directly without installing anything on the system. These applications remains on cloud.

### **8) What do you mean by software as a service?**

Software As a Service (SaaS) is an important layer of cloud computing. It provides cloud applications like Google is doing. It facilitate users to save their document on the cloud and create as well.

### **9) What is the platform as a service?**

It is also a layer in cloud architecture. This model is built on the infrastructure model and provide resources like computers, storage and network. It is responsible to provide complete virtualization of the infrastructure layer, make it look like a single server and invisible for outside world.

### **10) What is on-demand functionality? How is it provided in cloud computing?**

Cloud computing provides a on-demand access to the virtualized IT resources. It can be used by the subscriber. It uses shared pool to provide configurable resources. Shared pool contains networks, servers, storage, applications and services.

### **11) What are the platforms used for large scale cloud computing?**

Apache Hadoop and MapReduce are the platforms use for large scale cloud computing.

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

These are the different deployment model in cloud computing:

Private cloud

Public cloud

Hybrid cloud

Community cloud

### **13) What is private cloud?**

Private clouds are used to keep the strategic operations and other reasons secure. It is a complete platform which is fully functional and can be owned, operated and restricted to only an organization or an industry. Now a day, most of the organizations have moved to private clouds due to security concerns. Virtual private cloud is being used that operate by a hosting company.

### **14) What is public cloud?**

The public clouds are open to the people for use and deployment. For example: Google and Amazon etc. The public clouds focus on a few layers like cloud application, infrastructure providing and providing platform markets.

### **15) What are Hybrid clouds?**

Hybrid clouds are the combination of public clouds and private clouds. It is preferred over both the clouds because it applies most robust approach to implement cloud architecture. It includes the functionalities and features of both the worlds. It allows organizations to create their own cloud and allow them to give the control over to someone else as well.

### **16) What is the difference between cloud computing and mobile computing?**

Mobile computing and cloud computing are slightly same in concept. Mobile computing uses the concept of cloud computing . Cloud computing provides users the data which they required while in mobile computing, applications run on the remote server and gives user the access for storage and manage.

### **17) What is the difference between scalability and elasticity?**

**Scalability** is a characteristic of cloud computing which is used to handle the increasing workload by increasing in proportion amount of resource capacity. By the use of scalability, the architecture provides on demand resources if the requirement is being raised by the traffic. Whereas, **Elasticity** is a characteristic which provides the concept of commissioning and decommissioning of large amount of resource capacity dynamically. It is measured by the speed by which the resources are coming on demand and the usage of the resources.

### **18) What are the security benefits of cloud computing?**

Cloud computing authorizes the application service, so it is used in identity management.

It provides permissions to the users so that they can control the access of another user who is entering into the cloud environment.

### **19) What is the usage of utility computing?**

Utility computing is a plug-in managed by an organization which decides what type of services has to be deployed from the cloud. It facilitates users to pay only for what they use.

### **20) What is "EUCALYPTUS" in cloud computing? Why is it used?**

It is an acronym stands for Elastic Utility Computing Architecture For Linking Your Program To Useful Systems. It is an open source software infrastructure in cloud computing and used to implement clusters in cloud computing platform. It creates public, private and hybrid cloud. It facilitate a user to create his own data center into a private cloud and use its functionalities to many other organizations.

### **21) Explain System integrators in cloud computing.**

System integrator provides a strategy of a complicated process used to design a cloud platform. It creates more accurate hybrid and private cloud network because integrator have all the knowledge about the data center creation.

### **22) What are the open source cloud computing platform databases?**

MongoDB, CouchDB, LucidDB are the example of open source cloud computing platform database.

### **23) Give some example of large cloud provider and databases?**

Google bigtable

Amazon simpleDB

Cloud based SQL

### **24) What is the difference between cloud and traditional datacenters?**

The cost of the traditional datacenter is higher than cloud because in traditional databases, there is overheating problems and some software and hardware issue.

### **25) What are the different in Software as a Service (SaaS)?**

**Simple Multi-tenancy:**In this mode, Every user has independent resources and are uniquely different from other users. This is an efficient mode.

**Fine grain multi-tenancy:**: In this mode, the resources can be shared by many users but the functionality remains the same.

### **26) Why API's is used in cloud services?**

API's (Application Programming Interfaces) is used in cloud platform because:

It provide an alternative way that you don't need to write the fully fledged program.

It makes communication between one or more applications.

It creates applications and link the cloud services with other systems.

### **27) What are the advantages of cloud services?**

Following are the main advantages of cloud services:

* **Cost saving:** It helps in the utilization of investment in the corporate sector. So, it is cost saving.
* **Scalable and Robust:** It helps in the developing scalable and robust applications. Previously, the scaling took months, but now, scaling takes less time.
* **Time saving:** It helps in saving time in terms of deployment and maintenance.

### **28) What are the different datacenters in cloud computing?**

1. Containerized datacenter
2. Low density datacenter

### **29) What do you mean by CaaS?**

CaaS is a terminology used in telecom industry as Communication As a Service. CaaS offers the enterprise user features such as desktop call control, unified messaging and desktop faxing.

### **30) What do you mean by VPN? What does it contain?**

VPN stands for Virtual Private Network. VPN is a private cloud that manage the security of the data during the communication in the cloud environment. With VPN, you can make a public network as private network.

### **31) What are the basic clouds in cloud computing?**

There are three basic clouds in cloud computing:

1. Professional cloud
2. Personal cloud
3. Performance cloud

### **32) What are the most essential things that must be followed before going for cloud computing platform?**

* Compliance
* Loss of data
* Data storage
* Business continuity
* Uptime
* Data integrity in cloud computing

### **33) Which services are provided by Window azure operating system?**

There are three core services provided by Window azure operating system:

* Compute
* Storage
* Management

### **34) What is the usage of virtualization platform in implementing cloud?**

The main usage of virtualization platform in implementing cloud is:

* It is used to manage the service level policies.
* Cloud Operating System.
* Virtualization platforms help to keep the backend level and user level concepts different from each other.

### **35) We source cloud computing platform databases?**

Following are the open source cloud computing platform databases:

* MongoDB
* CouchDB
* LucidDB

### **36) What are some large cloud providers and databases?**

Following are the mostly used large cloud providers and databases:

* Google bigtable
* Amazon simpleDB
* Cloud based SQL

### **37) How would you secure data for transport in cloud?**

This is the most obvious question accurued in mind that if the cloud data is secure; To ensure that, check that there is no data leak with the encryption key implemented with the data you sending while the data moves from point A to point B in cloud.

# Source 3: https://www.wisdomjobs.com/e-university/cloud-computing-interview-questions.html

### **What Is Cloud Computing?**

The cloud computing is the computing which is completely based on the Internet. It can also be defined as the next stage in the evolution of the Internet. The cloud computing uses the cloud (Internet) that provides the way to deliver the services whenever and wherever the user of the cloud needs. Companies use the cloud computing to fulfill the needs of their customers, partners, and providers. The cloud computing includes vendors, partners, and business leaders as the three major contributors. The vendors are the one who provide applications and their related technology, infrastructure, hardware, and integration.

The partners are those who offer cloud services demand and provide support service to the customers. The business leaders are the ones who use or evaluate the cloud service provided by the partners. The cloud computing enables the companies to treat their resources as a pool and not as independent resources.

### **What Is A Cloud?**

A cloud is a combination of hardware, networks, storage, services, and interfaces that helps in delivering computing as a service. It has broadly three users which are end user, business management user, and cloud service provider. The end user is the one who uses the services provided by the cloud. The business management user in the cloud takes the responsibility of the data and the services provided by the cloud. The cloud service provider is the one who takes care or is responsible for the maintenance of the IT assets of the cloud. The cloud acts as a common center for its users to fulfill their computing needs.

### **What Are The Basic Characteristics Of Cloud Computing?**

The four basic characteristics of cloud computing are given as follows:  
• Elasticity and scalability.  
• Self-service provisioning and automatic de-provisioning.  
• Standardized interfaces.  
• Billing self-service based usage model.

### **What Is A Cloud Service?**

A cloud service is a service that is used to build cloud applications. This service provides the facility of using the cloud application without installing it on the computer. It reduces the maintenance and support of the application as compared to those applications that are not developed using the cloud service. The different kinds of users can use the application from the cloud service, which may be public or private application.

### **What Are Main Features Of Cloud Services?**

Some important features of the cloud service are given as follows:  
• Accessing and managing the commercial software.  
• Centralizing the activities of management of software in the Web environment.  
• Developing applications that are capable of managing several clients.  
• Centralizing the updating feature of software that eliminates the need of downloading the upgrades.

### **How Many Types Of Deployment Models Are Used In Cloud?**

There are 4 types of deployment models used in cloud:  
1. Public cloud  
2. Private cloud  
3. Community cloud  
4. Hybrid cloud

### **Why Does An Organization Need To Manage The Workloads?**

The workload can be defined as an independent service or a set of code that can be executed. It can be everything from a data-intensive workload to storage or a transaction processing workload and does not rely upon the outside elements. The workload can be considered as a small or complete application.

The organization manages workloads because of the following reasons:  
• To know how their applications are running.  
• To know what functions they are performing.  
• To know the charges of the individual department according to the use of the service.

### **Which Services Are Provided By Window Azure Operating System?**

Windows Azure provides three core services which are given as follows:  
• Compute  
• Storage  
• Management

### **Explain Hybrid And Community Cloud.**

The hybrid cloud consists of multiple service providers. This model integrates various cloud services for Hybrid Web hosting. It is basically a combination of private and public cloud features. It is used by the company when a company has requirements for both the private and public clouds. Consider an example when an organization wants to implement the SaaS (Software as a Service) application throughout the company. The implementation requires security that can be provided by the private cloud used inside the firewall. The additional security can be provided by the VPN on requirement. Now, the organization has both the private and public cloud features.

The community cloud provides a number of benefits, such as privacy and security. This model, which is quite expensive, is used when the organizations having common goals and requirements are ready to share the benefits of the cloud service.

### **Give A Brief Introduction Of Windows Azure Operating System.**

The Windows Azure operating system is used for running cloud services on the Windows Azure platform, as it includes necessary features for hosting your services in the cloud. It also provides runtime environment that consists of Web server, computational services, basic storage, queues, management services, and load balancers. The operating system provides development. Fabric for development and testing of services before their deployment on the Windows Azure in the cloud.

### **What Are The Advantages Of Cloud Services?**

Some of the advantages of cloud service are given as follows:  
• Helps in the utilization of investment in the corporate sector; and therefore, is cost saving.  
• Helps in the developing scalable and robust applications. Previously, the scaling took months, but now, scaling takes less time.  
• Helps in saving time in terms of deployment and maintenance.

### **What Are The Concerns Prevailing Around Cloud Computing?**

Security of data is the topmost concern in the consumers minds.

### **How Can These Concerns Be Addressed?**

By offering a more expensive - private cloud - solution, a customer's data is isolated from the public. Virtual private clouds can also be implemented. Lastly, a poorest measure against security is client-partitioning in a public cloud.

### **Mention The Basic Components Of A Server Computer In Cloud Computing?**

The components used in less expensive client computers matches with the hardware components of server computer in cloud computing. Although server computers are usually built from higher-grade components than client computers. Basic components include Motherboard, Memory, Processor, Network connection, Hard drives, Video, Power supply etc.

### **Comment On The Security Of Cloud Computing?**

It is a sub domain of networks, computers and information security in a larger aspect. Cloud computing security is referred to as cloud computing. It is designed in such a way that it acts as to safeguard the policies and technologies of organizations. Controls are deployed to protect applications, company’s data and frame work of security protocols.

### **Mention About The Top Cloud Applications Now A Days?**

Top cloud computing applications include google docs which are very fast and secure. There is also mobile version of google docs so you can access to your data from smart phone. Pixlr and Phoenix, jaycut also are the applications used for cloud computing.

### **Comment On Cloud Computing Revolution?**

Its essential to understand that the cloud computing revolution is not just about doing old things in new ways, also it is not just more cheap and green but also more collaborative intelligent and better available. The opportunity for Information technology department is to achieve new things and to make new things possible by cloud computing.

### **Comment On Its Cost?**

Low power pc’s can cut energy bills by upto 75%. This way it affects cost a lot.

### **What Can Be Done Using Cloud Computing?**

Cloud applications are very speedy and without buying and installing softwares we can use it. Application building in this is five times faster and it can deploy an application any time and any where and also it makes applications instantly collaborative and mobile.

### **How Would You Save Your Applications, Softwares And Drivers For A Long Term Without Using Any Magnetic Disk?**

I do not have to worry about my computer hardware at home because all my applications, files, games will be present somewhere on the Internet with cloud computing. The necessity is very fast connection.

### **Explain Benefits Of Cloud Computing?**

Money saving, increase in productivity about 50% ,IT support is 40% and time saving about 30%,less power and less space.

### **Explain The Importance Of Cloud Computing In It?**

A cloud computing addresses the explosive growth of internet-connected devices, and complements the increasing presence of technology in today’s world. Cloud computing provides a superior user experience, is massively scalable, and is characterized by the internet-driven economics.

### **Why Cloud Is Necessary?**

Amongst those who are already using the cloud, 94 % said the infrastructure was an important part of their decision but there is not one universal cloud infrastructure which suits every environment.

### **Name The Three Basic Clouds In Cloud Computing?**

The three basic clouds which we generally come across in cloud computing are Professional cloud, Performance clouds and Personal cloud.

### **Explain The Role Of Performance Cloud In Cloud Computing?**

It is an immerging type of cloud which can transfer maximum amount of data instantly. Basically it is used by Professional computer garners which play the games online and works on high performance computing research.

### **Why Professional Clouds Are Required In Cloud Computing?**

Professional clouds are used in Cloud computing because professional clouds are used for Emails, CRM solutions and web sites etc.

### **Describe Cloud Computing As Concisely And Simply As Possible In Layman Language?**

The purest form of cloud computing is pay-as-you-go Info Tech, online and on demand as per needed. The Info Technology capabilities provided as a service to businesses includes the single software applications and the software suites.

### **Cloud Computing Can Save Money ? Explain.**

We don’t need to buy the cloud and that is the biggest benefit for bottom line-conscious business offices and Information technology departments. As any other common utility, we just pay for what we use and when we use we turn it off. It always costs less to take advantage of existing infrastructure rather than building our own from scratch and that too especially for short term projects.

### **Explain The Benefits Of Cloud Computing?**

There are numerous benefits of cloud computing including data backup and storage of data, powerful server capabilities, software asa service known as (SaaS), Information technology sandboxing capabilities etc.

### **Tell Your Opinion About Adoption Of Cloud By Operators Around The World?**

Many operators use it today while cloud may not be seeing the traction of some forms of technology, like 4G.

### **How Does Cloud Computing Provides On-demand Functionality?**

Cloud computing is a metaphor used for internet. It provides on-demand access to virtualized IT resources that can be shared by others or subscribed by you. It provides an easy way to provide configurable resources by taking it from a shared pool. The pool consists of networks, servers, storage, applications and services.

### **What Is The Difference Between Scalability And Elasticity?**

***Scalability*** is a characteristic of cloud computing through which increasing workload can be handled by increasing in proportion the amount of resource capacity. It allows the architecture to provide on demand resources if the requirement is being raised by the traffic. Whereas, ***elasticity*** is being one of the characteristic provide the concept of commissioning and decommissioning of large amount of resource capacity dynamically. It is measured by the speed by which the resources are coming on demand and the usage of the resources.

### **What Are The Different Layers Of Cloud Computing?**

Cloud computing consists of 3 layers in the hierarchy and these are as follows:

* 1. ***Infrastructure as a Service***(IaaS) provides cloud infrastructure in terms of hardware like memory, processor speed etc.
  2. ***Platform as a Service*** (PaaS) provides cloud application platform for the developers.
  3. ***Software as a Service*** (SaaS) provides cloud applications which are used by the user directly without installing anything on the system. The application remains on the cloud and it can be saved and edited in there only.

### **What Resources Are Provided By Infrastructure As A Service?**

**Infrastructure as a Service** provides physical and virtual resources that are used to build a cloud. Infrastructure deals with the complexities of maintaining and deploying of the services provided by this layer. The infrastructure here is the servers, storage and other hardware systems.

### **How Important Is Platform As A Service?**

**Platform as a Service** is an important layer in cloud architecture. It is built on the infrastructure model, which provides resources like computers, storage and network. This layer includes organizing and operate the resources provided by the below layer. It is also responsible to provide complete virtualization of the infrastructure layer to make it look like a single server and keep it hidden from the outside world.

### **What Does Software As A Service Provide?**

**Software as Service** is another layer of cloud computing, which provides cloud applications like google is doing, it is providing google docs for the user to save their documents on the cloud and create as well. It provides the applications to be created on fly without adding or installing any extra software component. It provides built in software to create wide varieties of applications and documents and share it with other people online.

### **What Are The Different Deployment Models?**

Cloud computing supports many deployment models and they are as follows:

* 1. **Private Cloud**

Organizations choose to build there private cloud as to keep the strategic, operation and other reasons to themselves and they feel more secure to do it. It is a complete platform which is fully functional and can be owned, operated and restricted to only an organization or an industry. More organizations have moved to private clouds due to security concerns. Virtual private cloud is being used that operate by a hosting company.

* 1. **Public Cloud**

These are the platforms which are public means open to the people for use and deployment. For example, google, amazon etc. They focus on a few layers like cloud application, infrastructure providing and providing platform markets.

* 1. **Hybrid Clouds**

It is the combination of public and private cloud. It is the most robust approach to implement cloud architecture as it includes the functionalities and features of both the worlds. It allows organizations to create their own cloud and allow them to give the control over to someone else as well.

### **What Are The Different Datacenters Deployed For This?**

Cloud computing is made up of various datacenters put together in a grid form. It consists of different datacenters like:   
  
**Containerized Datacenters**  
These are the traditional datacenters that allow high level of customization with servers, mainframe and other resources. It requires planning, cooling, networking and power to access and work.   
**Low-Density Datacenters**  
These datacenters are optimized to give high performance. In these datacenters the space constraint is being removed and there is an increased density. It has a drawback that with high density the heat issue also creeps in. These datacenters are very much suitable to develop the cloud infrastructure.

### **What Is The Use Of Api's In Cloud Services?**

API stands for Application programming interface is very useful in cloud platforms as it allows easy implementation of it on the system. It removes the need to write full fledged programs. It provides the instructions to make the communication between one or more applications. It also allows easy to create application with ease and link the cloud services with other systems.

### **What Are The Different Modes Of Software As A Service?**

**Software as a Service** provides cloud application platform on which user can create application with the tools provided. The modes of software as a service are defined as:

* 1. ***Simple multi-tenancy***: in this each user has its own resources that are different from other users. It is an inefficient mode where the user has to put more time and money to add more infrastructure if the demand rises in less time to deliver.
  2. ***Fine grain multi-tenancy:*** in this the functionality remains the same that the resources can be shared to many. But it is more efficient as the resources are shared not the data and permission within an application.

### **What Is The Security Aspects Provided With Cloud?**

Security is one of the major aspects which come with any application and service used by the user. Companies or organizations remain much more concerned with the security provided with the cloud. There are many levels of security which has to be provided within cloud environment such as:

* 1. ***Identity management:*** it authorizes the application service or hardware component to be used by authorized users.
  2. ***Access control:*** permissions has to be provided to the users so that they can control the access of other users who are entering the in the cloud environment.
  3. ***Authorization and authentication:*** provision should be made to allow the authorized and authenticated people only to access and change the applications and data.

### **What Is The Difference Between Traditional Datacenters And Cloud?**

Cloud computing uses the concept of datacenter as it is the datacenter is based on the tradition one so the difference between them are as follows:

* 1. Cost of the traditional datacenter is higher, due to heating issues and other hardware/software related issues but this is not the case with the cloud computing infrastructure.
  2. It gets scaled when the demand increases. Most of the cost is being spent on the maintenance being performed on the datacenters, whereas cloud platform requires minimum maintenance and not very expert hand to handle them.

### **What Are The Three Cost Factors Involves In Cloud Data Center?**

Cloud data center doesn’t require experts to operate it, but it requires skilled people to see the maintenance, maintain the workloads and to keep the track of the traffic. The labor cost is 6% of the total cost to operate the cloud data center. Power distribution and cooling of the datacenter cost 20% of the total cost. Computing cost is at the end and is the highest as it is where lots of resources and installation has to be done. It costs the maximum left percentage.

### **How The Cloud Services Are Measured?**

Cloud computing provides the services to the organizations so they can run their applications and install them on the cloud. Virtualization is used to deploy the cloud computing models as it provides a hidden layer between the user and the physical layer of the system. The cloud services are measured in terms of use. Pay as much as you use that can be on the basis of hours or months or years. Cloud services allow users to pay for only what they use and according to the demand the charges or the prices gets increased.

### **What Are The Optimizing Strategies Used In Cloud?**

To optimize the cost and other resources there is a concept of three-data-center which provides backups in cases of disaster recovery and allows you to keep all the data intact in the case of any failure within the system. System management can be done more efficiently by carrying out pre-emptive tasks on the services and the processes which are running for the job. Security can be more advanced to allow only the limited users to access the services.

### **What Are Different Data Types Used In Cloud Computing?**

Cloud computing is going all together for a different look as it now includes different data types like emails, contracts, images, blogs, etc. The amount of data increasing day by day and cloud computing is requiring new and efficient data types to store them. For example if you want to save video then you need a data type to save that. Latency requirements are increasing as the demand is increasing. Companies are going for lower latency for many applications.

### **What Are The Security Laws Which Take Care Of The Data In The Cloud?**

The security laws which are implements to secure data in the cloud are as follows:

* 1. ***Input validation:***controls the input data which is being to any system.
  2. ***Processing:*** control that the data is being processed correctly and completely in an application.
  3. ***File:***control the data being manipulated in any type of file.
  4. ***Output reconciliation:*** control the data that has to be reconciled from input to output.
  5. ***Backup and recovery:*** control the security breaches logs and the problems which has occurred while creating the back.

### **How To Secure Your Data For Transport In Cloud?**

Cloud computing provides very good and easy to use feature to an organization, but at the same time it brings lots of question that how secure is the data, which has to be transported from one place to another in cloud. So, to make sure it remains secure when it moves from point A to point B in cloud, check that there is no data leak with the encryption key implemented with the data you sending.

### **What Do You Understand From Vpn?**

**VPN stands for virtual private network**; it is a private cloud which manages the security of the data during the transport in the cloud environment. VPN allows an organization to make a public network as private network and use it to transfer files and other resources on a network.

### **What Does A Vpn Consists Of?**

VPN is known as virtual private network and it consists of two important things:

* 1. ***Firewall:*** it acts as a barrier between the public network and any private network. It filters the messages that are getting exchanged between the networks. It also protects from any malicious activity being done on the network.
  2. ***Encryption:*** it is used to protect the sensitive data from professional hackers and other spammers who are usually remain active to get the data. With a message always there will be a key with which you can match the key provided to you.

### **Name Few Platforms Which Are Used For Large Scale Cloud Computing?**

There are many platforms available for cloud computing but to model the large scale distributed computing the platforms are as follows:

* 1. ***MapReduce:*** is software that is being built by Google to support distributed computing. It is a framework that works on large set of data. It utilizes the cloud resources and distributes the data to several other computers known as clusters. It has the capability to deal with both structured and non-structured data.
  2. ***Apache Hadoop:*** is an open source distributed computing platform. It is being written in Java. It creates a pool of computer each with hadoop file system. It then clusters the data elements and applies the hash algorithms that are similar. Then it creates copy of the files that already exist.

### **What Are Some Examples Of Large Cloud Providers And Their Databases?**

Cloud computing has many providers and it is supported on the large scale. The providers with their databases are as follows:

* 1. ***Google bigtable:***it is a hybrid cloud that consists of a big table that is spilt into tables and rows. MapReduce is used for modifying and generating the data.
  2. ***Amazon SimpleDB:*** is a webservice that is used for indexing and querying the data. It allows the storing, processing and creating query on the data set within the cloud platform. It has a system that automatically indexes the data.
  3. ***Cloud based SQL:*** is introduced by Microsoft and it is based on SQL database. it provides data storage by the usage of relational model in the cloud. The data can be accessed from the cloud using the client application.

### **What Are Some Open Source Cloud Computing Platform Databases?**

Cloud computing platform has various databases that are in support. The open source databases that are developed to support it is as follows:

* 1. ***MongoDB:*** is an open source database system which is schema free and document oriented database. It is written in C++ and provides tables and high storage space.
  2. ***CouchDB:*** is an open source database system based on Apache server and used to store the data efficiently.
  3. ***LucidDB:*** is the database made in Java/C++ for data warehousing. It provides features and functionalities to maintain data warehouse.

### **What Essential Things A User Should Know Before Going For Cloud Computing Platform?**

A user should know some parameters by which he can go for the cloud computing services. The parameters are as follows:

* 1. ***User should know the data integrity in cloud computing.*** It is a measure to ensure integrity like the data is accurate, complete and reasonable.
  2. ***Compliance:*** user should make sure that proper rules and regulations are followed while implementing the structure.
  3. ***Loss of data:*** user should know about the provisions that are provided in case of loss of data so that backup and recovery can be possible.
  4. ***Business continuity plans:***user should think about does the cloud services provide him uninterrupted data resources.
  5. ***Uptime:*** user should know about the uptime the cloud computing platform provides and how helpful it is for the business.
  6. ***Data storage costs:*** user should find out about the cost which you have to pay before you go for cloud computing.

### **What Are System Integrators?**

**Systems integrators** are the important part of cloud computing platform. It provides the strategy of the complicated process used to design a cloud platform. It includes well defined architecture to find the resources and the characteristics which have to be included for cloud computing. Integrators plan the users cloud strategy implementation. Integrators have knowledge about data center creation and also allow more accurate private and hybrid cloud creation.

### **What Is The Requirement Of Virtualization Platforms In Implementing Cloud?**

**Virtualization** is the basis of the cloud computing and there are many platforms that are available like VMware is a technology that provides the provision to create private cloud and provide a bridge to connect external cloud with private cloud. There are three key features that have to be identified to make a private cloud that is:

* 1. Cloud operating system.
  2. Manage the Service level policies.
  3. Virtualization keeps the user level and the backend level concepts different from each other so that a seamless environment can be created between both.

### **What Is The Use Of Eucalyptus In Cloud Computing Environment?**

**Eucalyptus** stands for “Elastic Utility Computing Architecture for Linking Your Programs to Useful Systems” and provides an open source software infrastructure to implement clusters in cloud computing platform. It is used to build private, public and hybrid clouds. It can also produce your own datacenter into a private cloud and allow you to extend the functionality to many other organizations. Eucalyptus provides APIs to be used with the web services to cope up with the demand of resources used in the private clouds.

### **Explain Different Layers Which Define Cloud Architecture?**

Cloud computing architecture consists of many layers which help it to be more organized and can be managed from one place. The layers are as follows:

* 1. ***Cloud controller*** or CLC is the top most level in the hierarchy which is used to manage the virtualized resources like servers, network and storage with the user APIs.
  2. ***Walrus*** is used for the storage and act as a storage controller to manage the demands of the users. It maintains a scalable approach to control the virtual machine images and user data.
  3. ***Cluster Controller*** or CC is used to control all the virtual machines for executions the virtual machines are stored on the nodes and manages the virtual networking between Virtual machines and external users.
  4. ***Storage Controller*** or SC provides a storage area in block form that are dynamically attached by Virtual machines.
  5. ***Node Controller*** or NC is at the lowest level and provides the functionality of a hypervisor that controls the VMs activities, which includes execution, management and termination of many instances.

### **How User Will Gain From Utility Computing?**

**Utility computing** allow the user to pay per use means whatever they are using only for that they have to pay. It is a plug in that needs to be managed by the organizations on deciding what type of services has to be deployed from the cloud. Utility computing allows the user to think and implement the services according to them. Most organizations go for hybrid strategy that combines internal delivered services that are hosted or outsourced services.

### **Is There Any Difference In Cloud Computing And Computing For Mobiles?**

Mobile cloud computing uses the same concept but it just adds a device of mobile. Cloud computing comes in action when a task or a data get kept on the internet rather then individual devices. It provides users on demand access to the data which they have to retrieve. Applications run on the remote server, and then given to the user to be able to, store and manage it from the mobile platform.

# Source 4: <http://www.aditiconsulting.com/top-12-interview-questions-hiring-cloud-computing-experts-answers-look/>

1. **Explain each of the three types of data used in cloud computing?**

As cloud computing has grown, the data types have changed. There are particular data types needed to save and store various data files.

* **Unstructured** data that has an unknown or unclassified structure is called unstructured data. Diverse data sources containing a combination of file types like images, videos, and text such as search engine results can be considered unstructured data.
* **Structured data**is processed, accessed, and stored in a fixed format. Data from relational database management systems is structured data.
* **Semi-structured data**this is a combination of structured and unstructured data. An example of this type of data is found in **XML format.**

1. **What are some of the open source cloud platform databases?**

Open source software is pervasive today. As the world moves to the cloud, speed, scalability, and efficiency are critical. Because of this, open source software is an important part of the cloud.

MongoDB: This database system is schema free, document-oriented database. Written in C++, it provides table and high storage capabilities.

CouchDB: This database is based on Apache server and is known to store data very efficiently

LucidDB: This database, written in Java/C++ is used for data warehousing.

1. **How can our company benefit from cloud computing?**

You want to know that your prospect has a clear understanding of the advantages of cloud computing

* More secure data backup and data storage
* Take advantage of powerful server capabilities without hardware investment
* Platform and OS agnostic
* Software as a service (SaaS)
* Sandboxing and virtualization capabilities
* Increased productivity
* Cost effectiveness
* Better positioning for growth and scale

1. **Mention platforms which are used for large scale cloud computing?**

Apache Hadoop – Apache Hadoop is an open source software platform for distributed storage and distributed processing of very large data sets on computer clusters built from commodity hardware.  Hadoop services provide for data storage, data processing, data access, data governance, security, and operations.

MapReduce – Google revolutionized analysis of large-scale data with this platform. It enables the processing of massive numbers of datasets using cloud sources and commodity hardware. It provides fault tolerance and transparent scalability at the software level.

1. **Describe the different service models for cloud computing?**

Infrastructure as a Service or IaaS: The infrastructure or hardware is provided by a third-party and managed by them.

Platform as a Service or PaaS: in addition to infrastructure, the operating system layer is also provided by a third-party and managed by them.

Software as a Service or SaaS: All applications and programs are cloud-based and managed by a third-party.

1. **What are the various deployment options for cloud computing?**

As you know, each deployment model will fit some business models better than will others. Larger organizations most often benefit from a private cloud, where small businesses will likely utilize the public cloud.

Private cloud infrastructure is exclusive to a single organization comprised of multiple business units. It can be managed and operated by the company, a third-party, or a combination. It may reside either on premises or in a remote data center.

Community cloud infrastructure is exclusively used by a specific community of users from businesses that have a shared concern. It can be managed and operated by the company, a third-party, or a combination. It may reside either on premises or in a remote data center.

Public cloud infrastructure is open for use by the public. It can be managed or operated by a business or organization: alone or in combination. It exists in the data center of the cloud provider.

Hybrid cloud infrastructure is a combination of two (or more) distinct cloud infrastructures, but which remain unique entities. They are, however, bound by standard or proprietary tech which enables data and app portability.

1. **How can a company benefit from utility computing?**

Utility computing will allow the end user to pay for the service on a per use basis. This is great for businesses using the model for scale and growth. Utility computing will allow the user to implement services according to their needs. Many organizations utilize a hybrid strategy combining internal delivery services: hosted or outsourced.

1. **For transporting data in the cloud, how you can you best secure data?**

First, make certain that your data cannot be intercepted as it moves into the cloud, making sure that there are no data leaks —malicious or not, from its cloud storage. This can be accomplished by utilizing a secure key.

1. **What are some security measures regarding the cloud?**

Companies have to remain concerned with security in the cloud. There are several levels of security which must be provided within the cloud environment:

* Identity management authorizes the application, service, and hardware component to be used only by authorized users.
* Access control provides permissions to the user so that they can control access of others who are accessing the cloud data.
* Authorization and authentication allocate access to certain individuals and change apps and data.

1. **What are the five different layers of cloud architecture used in AWS?**

Amazon Web Services (AWS) cloud architecture consists of many layers that help with organization and management from a remote location. These layers are:

1. CLC or Cloud Controller is the top level in the hierarchy. It is used to manage the virtualized environment and the resources such as servers, network, and the storage containing APIs.
2. Walrus acts as a storage controller, managing the demands of users. Using a scalable approach, it controls the virtual machine’s images and its user data.
3. CC or Cluster Controller controls all of the virtual machines (VM) for executions. Each VM is stored on nodes and they manage the networking between VMs and the external users.
4. SC or Storage Controller is a storage area in block form that is attached by VMs.
5. NC or Node Controller is the lowest level of the architecture and provides functionality as a hypervisor which controls the VMs activity. It includes execution, termination, and management of processes.
6. **What does “EUCALYPTUS” stand for and what does it mean in cloud computing?**

EUCALYPTUS stands for E-elastic U-utility C-computing A-architecture L-linking Y-your P-programs T-to U-useful S-systems“Eucalyptus” is an open source software infrastructure used in AWS.

[Eucalyptus, in cloud computing](http://searchcloudprovider.techtarget.com/definition/Eucalyptus), is an open source software used to implement clusters in computing platforms. It’s used to create public, community, hybrid, and private clouds. With it, users can transform their own data centers into the private cloud and use its functionality with many other applications.

1. **Before migration to a cloud computing platform what are the**[**essential considerations**](http://www.networkcomputing.com/cloud-infrastructure/7-cloud-migration-considerations/1926792235)**?**

* Compliance issues
* Protection from loss of data
* Data storage types
* Business continuity
* Uptime – reduction of downtime
* Maintaining data integrity in the cloud
* Ensuring availability and access

1. **What are some features implemented to ensure data security in the cloud?**

Processing control – make sure that the data is being processed correctly in an application

File access – manage and control data manipulation in any of the files

Output reconciliation to control the data that has to be reconciled from the form of input to output

[Input validation](https://research.cloudsecurityalliance.org/tci/display.php?id=data_app3002) to control the values of input data

Security and backup to provide security and backup. This also involves the controls for logs of security breaches.

These are just a few of the interview questions a cloud computing expert should be able to answer to your satisfaction.

# Source 5: <https://intellipaat.com/interview-question/cloud-computing-interview-questions/>

**1. Compare Cloud and On-premise Computing?**

|  |  |  |
| --- | --- | --- |
| **Criteria** | **Cloud** | **On-premise** |
| Initial cost | Low | High |
| Maintenance & Support | Hassle-free | Needs attention |
| Upgrade | Automatic | Manual |
| Scalability | Excellent | Good |
| Pay as you go | Yes | No |

**2. What is a Cloud?**

A cloud is a collaboration of networks, hardware, services, storage, and interfaces that helps in delivering computing as a service. It has three users:

1. End users
2. Business management users
3. Cloud service provider

**3. What is Cloud Computing?**

It is advance stage technology implemented so that the cloud provides the services globally as per the user requirements. It provides a method to access several servers worldwide.

**4. What are the benefits of cloud computing?**

The main benefits of cloud computing are:

* Data backup and storage of data.
* Powerful server capabilities.
* Incremented productivity.
* Cost effective and time saving.

**5. Mention the Layers of PaaS Architecture.**

**Cloud Controller**

* Automatically creates Virtual machines and controllers.
* Deploys Applications
* Connects to services
* Automatically scales Ups and Downs.

**Storage Services**

* Object
* NoSQL
* Relational
* Block Storage

**Applications store in storage services**

* Simple to scale applications
* Easier recovery from failure

**6. What are the Cloud Service Models?**

Infrastructure as a service (IaaS)  
Platform as a service (PaaS)  
Software as a service (SaaS)

**7. What are the components of Windows Azure?**

Windows Azure platform services

* The Cloud
* SQL Azure
* App Fabric: Allows fabric cloud

**8. What are the differences occurred in Distributed operations?**

**FC**: Master-Slave operations  
**Nova**: Parallel process and its shared database.

**9. Which agent is equivalent of Nova Compute?**

Azure Agent

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**10. Mention the Reliability and Availability of Cloud Computing.**

**Use of fault domains:**

* Two virtual machines are in single fault domain if a single hardware can bring down both the virtual machines.
* Azure automatically distributes instances of a role across fault domains.

**Use of Upgrade Domains:**

* When new version of software is rolled out, then only one up gradation of domain is done at a time.
* Ensures that some instance of the service is always available.
* Availability of the applications in the multiple instances

**Storage and Network Availability:**

* Copies of data are stored in different domains.
* Mechanism to guard against DoS and DDoS attacks.

**11. Give the best example for open source Cloud Computing.**

OpenStack

**12. Explain the Common storage of PaaS Architecture.**

**Cloud Controller:**

* Automatically creates the virtual machines and containers.
* Deploys applications
* Connects to services
* Automatically scales ups and downs

**Storage Services:**

* Object
* NoSQL
* Relational
* Block Storage

**Applications store state in storage services:**

* Simple to scale applications
* Easier recovery from failure.

**13. Why Hybrid Clouds are so important?**

**Cloud Bursting:**  
Access capacity or specialized software are available in public cloud and not in private cloud.  
Examples: Virtual Amazon and Dynamo

**Leverage best of both worlds:**  
VCloud:

* It is VM Ware cloud
* It is Expensive
* Enterprise quality

**Openstack:**

* It has commodity servers and storage.
* It is less reliable.
* We can run Web servers on OpenStack.
* Database is built on VCloud.

**14. List the platforms which are used for large scale cloud computing.**

The platforms that are used for large scale cloud computing are

* Apache Hadoop
* MapReduce

**15. Mention the different types of models used for deployment in Cloud Computing.**

The different deployment models in cloud computing are

* Private Cloud
* Public Cloud
* Community Cloud
* Hybrid Cloud

**16. Explain the Security management in terms of Cloud Computing.**

* The **Identity management** access provides the authorization of application services.
* **Access control** permission is given to the users to have complete controlling access of another user who is entering into the cloud environment.
* **Authentication and Authorization** provides access to only the authorized and authenticated users only to access the data and applications.

**17. Which are the Layers that the scope of Cloud Computing?**

The different layers used by cloud architecture are as follows:

* CLC or also known as Cloud Controller
* Walrus
* Cluster Controller
* Storage Controller(SC)
* Node Controller(NC)

**18. Explain what is the full form and usage of “EUCALYPTUS” in cloud computing.**

“EUCALYPTUS” full form stands for Elastic Utility Computing Architecture for Linking Your Programs to Useful Systems”.  
“Eucalyptus” is an open source software infrastructure in cloud computing, which enables us to implement clusters in cloud computing platform. It is mainly used to build public, hybrid and private clouds. It has the capabilities to produce your own data center into a private cloud and provides to use its all functionality for various other organizations.

**19. Mention the name of some large cloud providers and databases.**

* Google Big table
* Amazon Simple Database
* Cloud based SQL(Sequential Query Language)

**20. Explain the difference between cloud and traditional datacenters.**

* The expenditure of the traditional data center is expensive due to heating and hardware/software issues
* Cloud being scaled when there is an increase in demand. Mostly the expenditure is on the maintenance of the data centers, while this issues are not faced in cloud computing.

**21. What are the uses of API’s in cloud services?**

* API’s (Application Programming Interface are used to eliminate the necessity to write the complete programs.
* The instructions are provided to make communication between one or more applications.
* Creation of applications is made easy and access for the link of cloud services with other systems.

**22. Mention the different datacenters deployment of cloud computing.**

Cloud computing consists of different datacenters such as :

* **Containerized datacenters –**Containerized datacenters are the packages that contain consistent set of servers, network components and storage delivered to large warehouse kind of facilities. Here each deployment is relatively unique.
* **Low-density datacenters**– Containerized datacentres promote heavy density which in turn causes much heat and significant engineering troubles. Low density datacentres are the solution to this problem. Here the equipment is established far apart so that it cools down the generated heat.

**23. List down the three basic functioning clouds in cloud computing.**

* Professional cloud
* Personal cloud
* Performance cloud

**24. What are the characteristics of cloud architecture that differs from traditional cloud architecture?**

The characteristics are:

* The hardware requirement is being provided as per the demand created for cloud architecture.
* Cloud architecture is capable of scaling the resource on demand created.
* Cloud architecture is capable of managing and handling dynamic workloads without any point of failures.

**25. What are the building blocks in cloud architecture?**

* Reference architecture
* Technical architecture
* Deployment operation architecture
* Reference architecture
* Technical architecture
* Deployment operation architecture

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**26. Explain AWS.**

AWS stands for Amazon Web Service which is a collection of remote computing services also known as cloud computing. This technology of cloud computing is also known as IaaS or Infrastructure as a Service.

**27. Mention the key components of AWS.**

The key components of AWS are as follows:

* **Route 53:** A DNS (Domain Name SERVER) web based service platform.
* **Simple E-mail Service:** Sending of E-mail is done by using RESTFUL API call or via regular SMTP (Simple Mail Transfer Protocol).
* **Identity and Access Management:** Improvised security and Identity management is provided for AWS account.
* **Simple Storage Device or (S3):** It is a huge storage medium, widely used for AWS services.
* **Elastic Compute Cloud (EC2):** Allows on-demand computing resources for hosting applications and essentially useful for unpredictable workloads
* **Elastic Block Store (EBS):** Storage volumes which is being attached to EC2 and allows the data lifespan of a single EC2
* **Cloud Watch:** It is used to monitor AWS resources and it allows administrators to view and collect keys required. Access is provided so that one can set a notification alarm in case of trouble.

**28. Explain how can I vertically scale an Amazon instance.**

This is one of the essential features of AWS and cloud virtualization. SpinUp a newly developed large instance where we pause that instance and detach the root Ebs volume from the server and discard. Later stop your live instance, detach its root volume connected. Note down the unique device ID and attach the same root volume to the new server. And restart it again. This results in vertically scaled Amazon instance.

**29. Explain the security usage in Amazon Web Services model.**

* AWS supports security groups.
* Access is provided to create a security group for a jump box with ssh access only for port 22 open. Later a web server group and database group are created. The web server group provides 80 and 443 from around the world, but only port 22 are vital among the jump box group. Database group allows port 3306 from the web server group and port 22 from the jump box group. Addition of any machines to the web server group can store in the database. No one can directly ssh to any of your boxes.

**30. What are reasons that made Amazon so big?**

* Backup storage of EBS volumes is maintained by inserting the snapshot facility via API call or via a GUI interface like elasticfox.
* Performance is improved by using Linux software raid and striping across four volumes.

**31. What is an AMI? How do we implement it?**

* AMI stands for Amazon Machine Image. It is basically a copy of the root file system.
* Provides the data required to launch an instance, which means a copy of running an AMI server in the cloud. It’s easy to launch an instance from many different AMIs.
* Hardware servers that commodities bios which exactly point the master boot record of the first block on a disk. A disk image is created which can easily fit anywhere physically on a disk .Where Linux can boot from an arbitrary location on the EBS storage network.