

**Final Term Paper (Spring - 2020)**  
**Cloud Computing**

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**Note: Attempt all Questions. Answers should be in your own words. Plagiarism will not be tolerated, if detected, it will lead to failure.**

**Question No. 1:**

(20)

- a. Explain in detail network and cloud-based storage.

Ans :

**Network:**

A network in computing is a group of two or more devices which can communicate. A network is comprised of a different computer system connected wireless or physical connections all the networks allow the computers to share the information and resources. Regardless of scope the all networks allow computers or the individuals to share the information and the resources computers can serve a number of purposes some of which include.

Communications such as email instant messaging chat rooms etc.

Shared softwares like which is achieved by running the application on the remote computers

Shared the data and the information with the helpn use of shared storage devices and shared the hardware devices like printers and input devices.

The computer network involves the the use of computers for computing and telecommunication technology like the telephones lines wireless radio links for sending the data over long distance.the computer network can be said that it is involved at the interface of the telecommunication and the computing.And the first computer network which was appeared was like a wide network which consist of connected computers through the globe and that network is called the internet.When we use computers we conme

across the new technical term which is called the computing and computing is the process of utilize computer technology to fulfill the task.

Benefits of Networks:

- Provides the platform to communicate the user with each other in a network
- Allows us to share the data and resources
- Allows to implement the security policies
- Allows multiple users to work on a single project
- Possible to track and monitor the use of resources

The purpose of the a network or computer network are as follow:

- Data Sharing
- Resources Sharing
- Applications

The devices which can be used for the networking are also given below:

- Firewalls
- Interface cards
- Hub
- Routers
- Switches
- Bridges

### **Cloud Based Storage:**

A cloud based storage is a storage which is provided by the cloud computing providers servers through the internet for the users on their demand. It delivers on the demand with the just in time capacity and costs and eliminates buying and managing your data storage infrastructure. Cloud storage is a model of data storage where the data like digital data which is stored in the logical pools the physical storage spans the multiple servers and the physical environment which is typically owned and also managed by the hosting company. The services of a cloud computing can be accessed through a collocated cloud computing service the web service application programming interface or by the applications which

utilizes the API like the cloud desktop storage. There are many cloud providers companies which are google drive drop box iCloud and iCloud Drive .you can easily access the data which is stored in the cloud from anywhere by just using the electronic devices and must have access the internet there is another easiest way to use the storage by going to the site and login and they will provide you the specific amount of storage and if you need it more then you have to pay for it .The advantages of using the cloud storage is that you don't need to manage your storage you can ask for your desire storage and there is also no issue of security of your data the provider will keep it secure.the cloud storage provides users with immediate access to a broad range of the another organisation via the web service interface.

**Benefit of the Cloud Storage:**

The benefit of the cloud storage are as follow:

**Total Cost Ownership:**

In the cloud storage there is no hardware device to buy so we can only purchase the storage by our demand which we offer.It can make quick change high performance if the data access frequency are low it can move automatically move to lower cost tiers

**Time to Deployment:**

When the development team is ready to implement infrastructure should be never slow it down.the cloud storage enables IT to quickly send the right amount of storage right when the its needed it allows IT to focus on solving the complex applications problems rather than having to manage storage system.

**Requirements of Cloud Storage:**

- Security
- Availability
- Durability

Types of the cloud storage are as follow:

- File Storage
- Block Storage
- Object Storage

a. Explain in detail web application and multitenant technology.

Ans:

Definition:

A web Application is a computer program which executes specific tasks for users using the internet. A web application is an application which runs on a web server distinct to applications that are kept on the software of the device.

Web Applications:

A software program which runs on a web server. Not like the desktop applications which are launched by your OS. Unlike the desktop applications the web applications can be accessed anywhere through the web browser just like Google Chrome Firefox Or Apple's Safari. The users can easily determine that which machine he will use to use the web application the web applications are updated centrally so the applications are always updated the security can also be applied it provides the following

- a. Auto discovery of all URLs and end user activity to simplify the setup
- b. Geographic heat maps
- c. Real time web app performance analysis.
- d. End user experience for the web pages which includes the metrics for the page errors page rates and the unique users

The web applications can easily be accessed through the web browser or mobile applications which request the web server through the internet then maybe the security measures for example firewalls or the cloud access security brokers and the web server then forward the request to the application server the web application server performs the requested task and after the processing it generates the requested data and the browser app then sends the result back to the web server.

Types of Web Applications;

- a. Static
- b. Dynamic
- c. Online Store or E-commerce
- d. Portal web apps
- e. Animated
- f. Content management System

Examples:

- Gmail
- Yahoo

- AOL
- Online retail sales
- Online forms\
- Photo editing
- Word processors
- Spreadsheets
- Google Docs
- Google Slides
- File conversion and much more

Multitenant Technology:

Defiition:

Multitenancy implies that a single instance of the software packkag and its supporting the infrastructure serves multiple customers each client shares the software package apps an additionally shares a single database so the every tenants information is isolated and will reamin invisible to the other tenants the multitenants applications enable isolation to the concurrent users and the information and settings of the one user cannot be accessed by the other users so the tenans can be edited their business methods so the datsa models and can contrl the multi tenant applications.

Features of a multitenant technology:

User interface:

Tenants will outline a specialized look and feel for their app interface

Business process:

it will customize the principles logics and the workflows of the business process that are enforced within the application

Access Control:

It will seeralluy control the access of rights for the users and the groups

Characteristics of the mutitenants are as follow;

- Usage isolation
- Data Securty

- Application upgrades do not negatively affect the existing users
- Backup and restore is separate for each tenant
- Metered Usage
- Database tables and the schema isolation for each user.

b. Explain in detail cloud security threats.

Ans:

There are many cloud security threats

- Data removal it is a residual representation of the data loss
- Data recovery might becomes the difficult in case of the server break down
- The data lock is also the threat in the cloud security it usually refers to the vendor locks it is the type of scenario in which the user using the service cant easily transition to a competitors service
- The integrity of the data is very important its most important issue is the data breach it is the incident in which an individual un authorized person steals the personal data
- Data loss with no backup an accident or the catstrophe can lead to the permanent loss of customer data unless there are measures in place to back up that data
- Insider threats a recent research report noted that the 53% of organizations surveed confirmed insider attacks against their organization
- Advance persistent threats many advace persistent threat groups not only target cloud enviroments but use public cloud services to conduct their attacks
- Data breaches the risk of a data breach is not unique to the cloud computing but it constantly ranks as a top concern for cloud custmers.

**Question No. 3:**

(10)

a. Briefly describe following.

a. Advantages and disadvantages of cloud computing.

Ans:

Following are the some advantages of cloud Computing:

- Accessibility
- Cost reduction
- Reliability
- Efficiency recovery
- No hardware required
- Security
- Easy Implementation
- Flexibility for th growth
- Back up
- Mobility

Disadvantages are as follow:

- Lack of Support
- Downtime
- Internet connectivity
- Vendor Lock-in
- Bandwith issues
- May no get all the features
- Limited control

b. Collaborative meeting in cloud.

Ans:

Collaboartive meeting in cloud allows anyone to enjoy the consistent video collaboration experiencing from mobile and the desktp with the service and the sloutions so they can be use at home or in the office the users can easily meet any way the way they want like instantly or by scheduling meeting. It can be performed by using software hosted on cloud .

It helps enable people to meet with others in way that suits their working day you can invite others to meet in your personalized always available anytime you can create the instant meetings whenever you need you can also add the third person if you want and you can also reserve the conference rooms and the media resources for the defined audience.

The features of a Collaborative are as follow:

- WhatsApp
- Google Cass Room
- Skype
- Messenger
- Zoom
- Share Aplication
- Meeting Recoding
- Multimedia to control the presentation