ASSIGNMENT – 1

Home Network Topology:

The Star topology is preferred for the home network, due to simplicity accessibility and reliability, in order to add the new devices, we can easily connect with the internet and can communications with the other devices.

In Star topology, all the devices in the home network connect with the central device typically it may be a router or switch, all the devices like TV, Mobile, Desktop, Tab etc all are connected to central device via ethernet cables or wireless through Wi-Fi.

Central Device (Router/switch):

It acts as hub of the network, it manages all the communication between the devices which are connected to the network, and also allowing devices to access the online services and resources.

End Devices:

End Devices such as Desktops, mobiles, printers, tablets and all smart devices in the home are connected to the central device and each home device has its own network interface like Wi-Fi through which they can communicate with the central device.

Communication:

In star topology the communication between devices on the network goes through central devices. If one device need to send the information to the other device it sends through the central device and then forwards the information to the destination device. This network is simple and all the devices will be directly connected to the central device.

Laptop

Desktop

HUB

Mobile

TV

Accessing RPS Lab Service Environment:

RPS LAB

Web

Server

Data BASE

USER

HTTP Response

HTTP Request

Invoke Component

Response

Result

Invoke query

Execute Query

User (Client Server):

This represents the user devices to interact with lab environment it may be of laptop, mobile or devices that may sends the HTTP request and responses.

Webserver:

It serves as an entry point of User requests, initially it can handle initial authentications, requests, static content related to the lab environment e.g.: login page

RPS Lab (Application Server):

It is an application server. Receives requests forwarded by the web server. It hosts the application's business logic, processes dynamic content, and interacts with other components such as databases.

Database:

It hosts the data where data can be modified and retrieved, the application server sends the query to database to fetch or modify data as needed.

Explanation:

* User sends the http request to the webserver.
* Webserver invokes the components or application to the application server based on the request
* The application server processes the request and invokes the queries or related operations to interact with the database server.
* The Database server executes the query and sends to the application server, which responds to the user’s request