CCNA Assignment

Date __/__/____ Module - 5

Saathi

1. Explain How Automation Impacts Network mangement.

→ How Network Automation Impacts Network management with Network Automation, Various network management activities are done such as network management, testing, deployment, configuration and various network operation

→ Network Automation, Complex network duties for example: configurations can be done automatically. As you know network engineers likes configurations.

→ But for a large network, Router/Switch configurations can be difficult. To overcome this issue, Network Automation is used and this makes network engineers' job easier.

Benefits

Reduced operation costs
High up times.
Lower Errors
Effective Staff.
Better Network Control.
Increased Business Agility.

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2) Explain Virtualization.

→ Virtualization is the creation of a virtual - rather then actual - version of something, such as an operating system, a server, a storage device or network resources.

→ Virtulization uses software that simulates hardware functionality to create a virtual system.

→ This practice allows IT organizations to operate multiple operating systems, more than one virtual system and various applications on a single server.

3) Describe Characteristics of REST-based API.

1. Client - Server Architecture.
2. statelessness
3. Cacheability.
4. Layered System
5. Code on - Demand
6. Uniform Interface.

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1. Client-Server Architecture.

→ Restful APIs are built with a client-server architecture, meaning that the client sends a request to server and the server sends back a response.

2. Statelessness.

meaning that each request made by the client to the server contains all the informations necessary for the server to fulfill the request, without relying on any previous requests or servers-side storage.

3. Cacheability.

→ It is important to utilize methods to reduce the load on the server. There fore Restful APIs implement some sort of caching.

→ This means that the API responses can be cached by the client, allowing for faster response time subsequent requests for the same resource.

4. Layered system.

→ APIs to be designed as a layered system, where the client interacts with the server through a single

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endpoint, while the Server can interact with multiple backend systems.

5- Code-on-Demand.

→ means that the server can send back code to be executed by the client instead of data.

6. Uniform Interface.

→ means that the API uses a common set of methods, such as GET, POST, PUT and DELETE, to access resources, and a standard format, such a JSON or XML for requests and responses.

4) Explain DNA Center.

→ DNA (Digital Network Architecture) is powerful SDN controller and management dashboard that allows you to take control of your network, optimize your network, secure your remote workforce, and lower your IT spending.

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→ It is an appliance that provides a centralized graphical interface to design your network, add and configure devices, monitor your network and devices, and troubleshoot your network.

5) Explain SDN.

→ SDN stands for Software Defined Network which is a network approach.

→ It enables the control and management of the network using Software applications.

→ Through SDN networking behavior or the entire network and its device are programmed in a controlled manner through Software applications using Open APS.

D. Understand the various planes.

1. Data Plane.
2. Control Plane.

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6) Compaure traditional Network with Controller based networking.

Traditional Networking.	Controller based Networking.
→ They are static and inflexible. network.	→ They are Programbel networks.
→ They are not useful for new business Ventures.	→ They are help new business ventures.
→ They are hwredware appliances.	→ They are configured using open software.
→ They have distributed. Control plane.	→ They have logically centralized control Plane.
→ They use custom ASICs and FPGAs.	→ They use merchant Silicon.
→ They work using. protocols.	→ They use APIs to Configure as per need