Activity 1: Design Cloud Test Application & Research

Ryan Coon

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Professor Dan Neal

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**Azure Student Starter Account Screenshot**

Graphical user interface, application

Description automatically generated

**Start a cloud test application**

The test application for the course activity is still in early development. It will be a multi-page housing rental application similar to air bnb connected to a MySQL database. The application will be developed using Java using the Springboot framework, with bootstrap and Thymeleaf for a consistent style system.

**Cloud Computing Research**

1. Evolution of Cloud Computing

After reading this week’s chapter, we can sum up that cloud computing came about with the ever-growing necessity between building business systems and maintaining them as well. With the use of centralized cloud service providers that can mimic the client-server systems that started back in the 1980s’s. The costs of maintaining and scaling on premise systems kept rising, service providers started to offer the consumption-based pricing models for their PaaS, SaaS, and IaaS systems. This works by the service provider handling the physical deployment and the maintenance for upkeep and repairs needed on the servers and equipment. To sum it all up it is now more affordable for a company to pay for a cloud server and keep their hires on for the continual growth of their product rather spend on site servers.

1. Netflix’s Transition to the cloud

**The advantages are:**

- With moving to the cloud, it allowed Netflix to retain existing members while also allowing a 1,000x growth.

- Being on the cloud allowed Netflix to evolve rapidly with new features.

- The elasticity factor of cloud computing, enabling Netflix to continuously optimize instances to grow and shrink as per requirement without the need to maintain large capacity machines.

**The disadvantages are:**

-Time consuming data transfer to the cloud compared to in house servers

-Netflix must cope with hardware failures and slow response times in the cloud, where IT resources are shared with other tenants.

-Struggled with the sheer size of the task and some differences between how their data centers operated and how AWS operates.

**Some of the features adding after moving to the cloud:**

-Added thousands of virtual servers and petabytes of storage within minutes

-Launched Content Delivery Network which is used to deliver videos globally in an efficient manner.

-“Chaos Monkey” created to identify groups of systems and randomly take them offline to ensure Netflix’s safety without affecting customers.

1. **Cloud vs. On Premise Server Analization**

After reading chapter 1 in our course resources, it would only make sense to choose the Cloud over an On Premise Server. From the reading it stated that a on premise data center could cost one roughly $3-5k per server and would need anywhere from 3 to 5 servers. This alone could cost a company a fortune to start not to mention the upkeep on those machines. Parts will fail and would need a team to constantly monitor them in case of any outage. Not only would using the cloud cost approximately $0.37 an hour, but the savings would come from not having to have a team to troubleshoot hardware issues, software configuration issues, and even outages. With the Cloud, as our company grows it will be as easy as pressing a button to expand our servers to handle the growth, in turn allowing us to focus on things like additions to make our site more interactive or even adding new products to grow the brand.  After going over all of these models, it is clear that Cloud based services would be a best case scenario for any business in this technology driven world.

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