



TECHNOLOGY CAMP

Introduction to Cloud Computing

Day 3 : Session 1

Instructors

- Name
- Job / Company
- Industry Experience
- Something interesting



Volunteers

- Name
- Job / School
- Something interesting



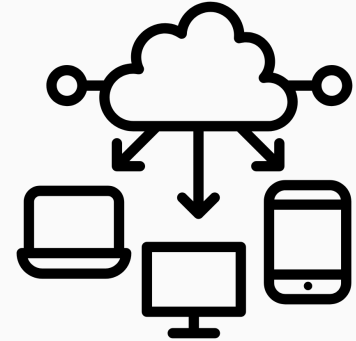
Introduction to Cloud Computing

- What is Cloud Computing
- How is Cloud Related to Virtualization
- Advantages of Cloud Computing
- Components of a Cloud Environment
- Major Cloud Providers



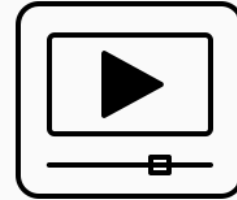
What is Cloud Computing?

Cloud computing is a remote virtual pool of on-demand shared resources offering Compute, Storage, Database and Network services that can be rapidly deployed at scale
– *cloudacademy.com*



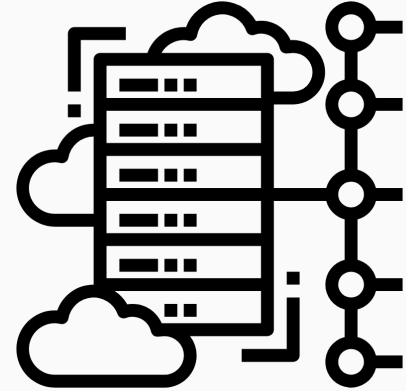
Video - What is Cloud Computing

- Lets watch it:
 - https://youtu.be/Rh_fZb5pxgY
 - Pause at 1:45 to continue discussion



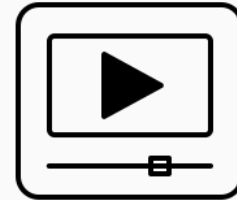
How is Cloud Related to Virtualization?

- Virtualization and Cloud computing work together
- Virtualization allows for multiple server instances to run on the same physical infrastructure
- Virtualization is the technology that makes Cloud Computing possible
- Cloud computing relies on virtualization to provide the cloud computing services



Video - Understanding Virtualization

- Lets watch it:
 - https://youtu.be/Rh_fZb5pxgY
 - Pause at 3:18 to continue discussion

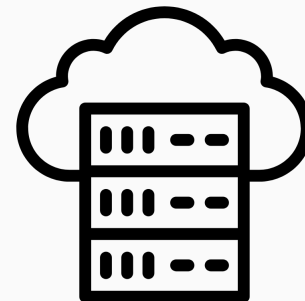


Components of a Cloud Environment

YELLOW

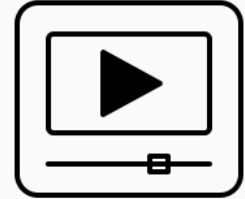
CIRCLE

- **Compute** – The processing resources (for example, servers)
- **Storage** – Allows data storage
- **Databases** – Used to store structured data that can be queried or used by applications
- **Network** – Provide the connections to allow the other components to communicate and work together
 - This includes routers to direct traffic & firewalls to control the flow of traffic within the network
 - Compare each component to real vs virtual (firewalls, servers, load-balancers, vswitch, routers, etc)

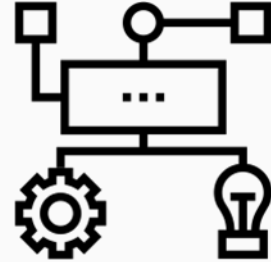


Video - Components of a Cloud Environment

- Lets watch it:
 - https://youtu.be/Rh_fZb5pxgY
 - Pause at 5:20 to continue discussion



- Public Cloud – Vendor provided service that offers access to shared cloud components, typically accessed over the public internet
- Private Cloud – Owned and managed by a specific organization
- Hybrid – Uses both public and private clouds through network connectivity between the two clouds



- **Infrastructure as a Service (IaaS)**



Provides virtualized traditional infrastructure components including servers, storage, networking components



- **Platform as a Service (PaaS)**



Provides access to hardware and software tools on infrastructure hosted by the vendor. Allows the users to install applications without concern for server and infrastructure administration



- **Software as a Service (SaaS)**

Provides access to applications that are hosted on the infrastructure and platform of the service provider



Today we will be building different components and using different features 3 of the major cloud providers: Microsoft Azure, Amazon Web Services (AWS), and Google Compute Cloud.

- Microsoft Azure – Build a Webapp
- Amazon Web Services (AWS) – Build a VPN
- Google Compute Cloud - Build a virtual server and install an application



Lab: First time login to laptops

- Login as Student
- Password for student account is...
- Connect to Wifi
- Test Internet connectivity by browsing to google.com



Each of the names below describes a cloud offering from one of the 3 providers we will be using today, Azure, AWS, or Google. Using your laptops, research the offering and be ready to describe the offering and the type of service model (IaaS, PaaS, or SaaS).

- G Suite
- AWS Lambda
- Google Compute Engine
- AWS Elastic Beanstalk
- Google App Engine
- Microsoft Azure



What we learned?

- What is Cloud Computing
- How is Cloud Related to Virtualization
- Advantages of Cloud Computing
- Components of a Cloud Environment
- Major Cloud Providers



End of session 1

- Time for break
- Snacks served in Cafeteria
- Remember to use restrooms

