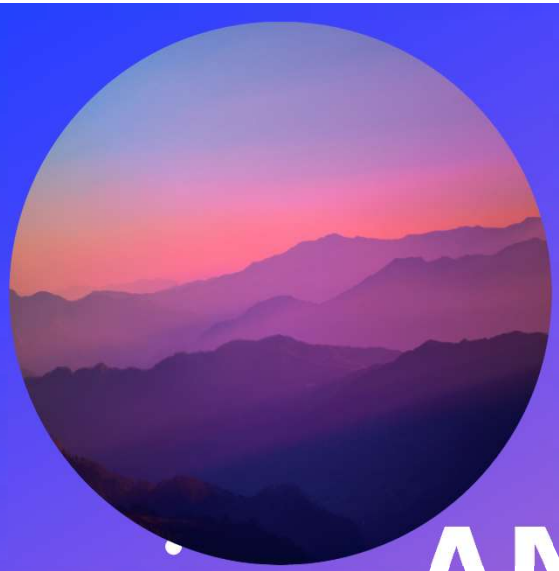
MINNESOTA TECH FOR SUCCESS

Week 13-15: Cloud Computing

2/21/2024

Agenda

- **Announcements**
- **Classroom (25 min)**
  - Cloud Computing
  - Intro to Amazon Web Services (AWS)
- **Break (5 min)**
- **Warehouse (1.5 hrs)**
  - Laptop RAM Sorting



ANNOUNCEMENTS

Week 13

Announcements for 2/21

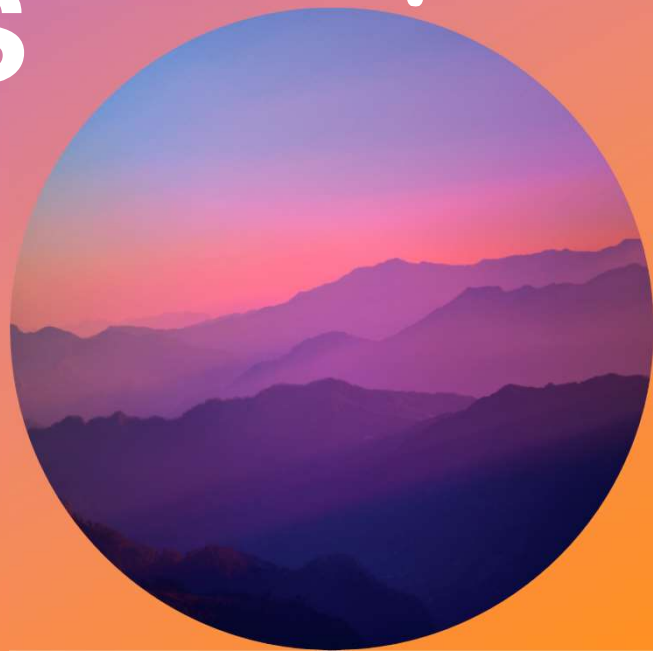
- **Calendar**
  - Next session: **Wednesday, 2/28/2024**
- Week 13-15: Cloud Computing – Feb. 21st , 28th , & Mar. 6th
- Week 16-18: Database Management and Troubleshooting – Mar. 13th, 27th, & Apr. 3rd

Values

- **R**espect
- **A**ccountability
- **I**mprovement
- **S**teadfast
- **E**ncouragement

MODULE 3: ADVANCED IT CONCEPTS

Cloud Computing

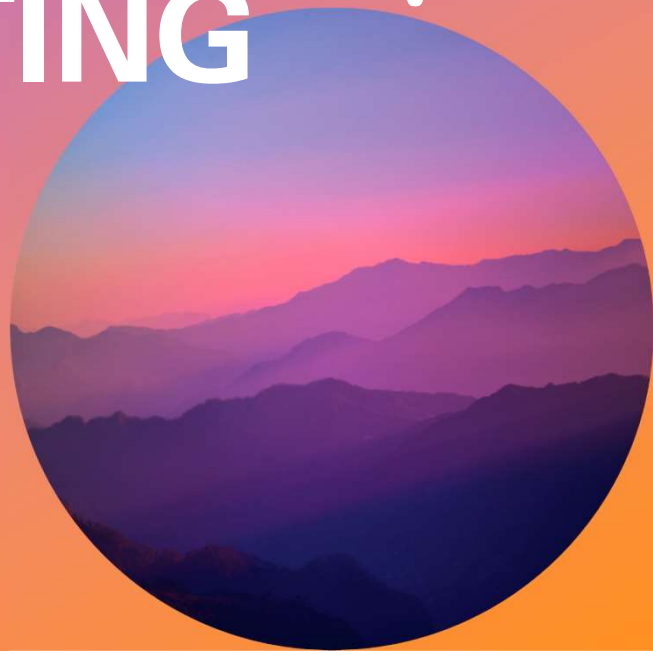


Cloud Computing: Objectives

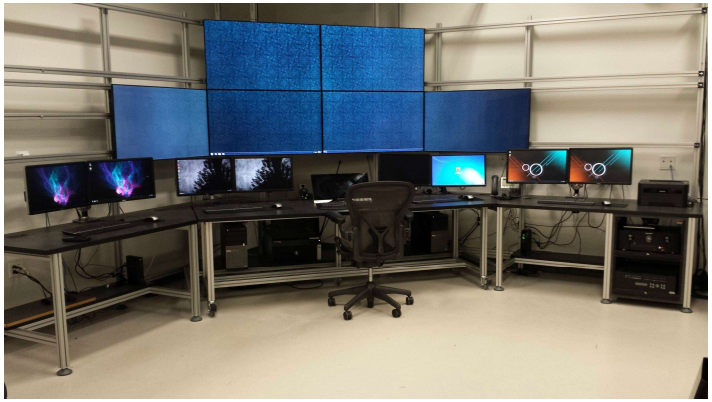
1. What is cloud computing?
   - Explanation of cloud computing, its advantages, and how it's used to store data and run applications remotely.
2. Introduction to major cloud providers
   - Overview of major cloud service providers such as Amazon Web Services (AWS), Microsoft Azure & Google Cloud.
3. Everyday uses of the cloud
   - Examples of common cloud-based services like email, file storage, and streaming.
4. How to use cloud services
   - Practical guidance on accessing and using cloud services.

CLOUD COMPUTING

What is Cloud Computing?



Cloud Computing



What is Cloud Computing?

- **Cloud Computing:** On-demand computing resources as services over the internet
  - People/businesses do not need to self-manage resources themselves

Types of Cloud Computing: Deployment Model

- Public Cloud – 3rd party cloud service providers for shared on demand resources
  - Accessible by the general public over the internet
  - Owned by the cloud provider
  - Pay for what is used and for how long
- Private Cloud – built-in managed, owned by a single organization
  - Can also be managed by a third party on or off premise
  - Paid all for upfront and privately owned
- Hybrid Cloud – combines public and private to maintain security & compliance capabilities
  - Government agencies may typically use this model with internal operations and the public

Types of Cloud Computing: Service Model

1. **Infrastructure as a service (IaaS):**
   - On-demand access to IT infrastructure services, including compute, storage, networking, and virtualization.
   - Gives highest level of control over IT resources and most closely resembles traditional on-premises IT resources.

2. **Platform as a service (PaaS):**
   - All the hardware and software resources needed for cloud application development.
   - With PaaS, companies can focus fully on application development without the burden of managing and maintaining the underlying infrastructure.

3. **Software as a service (SaaS):**
   - Full application stack as a service, from underlying infrastructure to maintenance and updates to the app software itself.
   - Often an end-user application, where both the service and the infrastructure is managed and maintained by the cloud service provider.

Why Cloud Computing?

- **Flexible**
  - Pay for what you use 
  - Scales as you upsize or downsize your team/organization

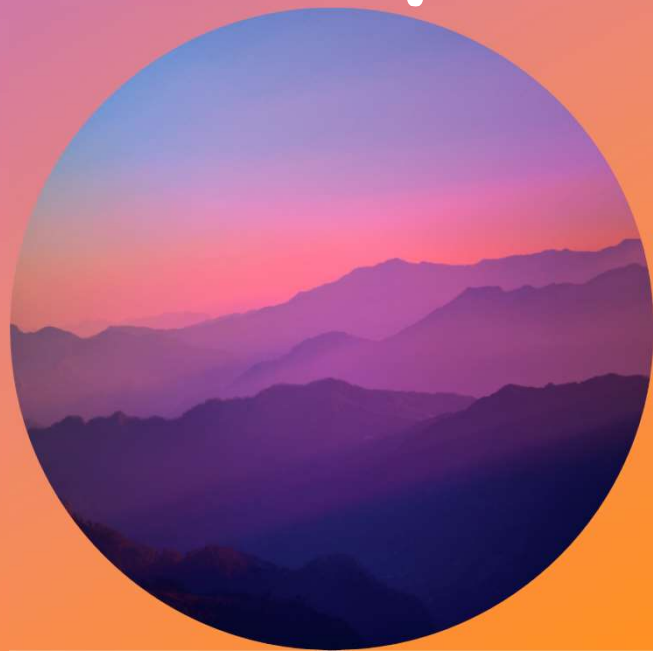
- **Convenience**
  - Access to global data centers remotely anywhere, anytime
  - Hands-off maintenance (infrastructure, software, hardware, upgrades)

- **Compliance & Risk**
  - Adheres to standards and compliant (i.e. HIPAA, GDPR, CCPA)
  - Not on premise = less physical risk, more failover
  - External real-time data backup

- **Value & Updates**
  - Latest features, pushed through the cloud
  - No equipment to replace or upgrade

INTRODUCTION TO MAJOR CLOUD PROVIDERS

Amazon Web Services (AWS)



AMAZON WEB SERVICES (AWS)

AWS Offers

- **Services**
  - Analytics, Application Integration, Blockchain, Business Applications, Cloud Financial Management, Compute, Contact Center, Containers, Database, Developer Tools, End User Computing, Front-End Web & Mobile, Games, Internet of Things, Machine Learning, Management & Governance, Media Services, Migration & Transfer, Networking & Content Delivery, Quantum Technologies, Robotics, Satellite, Security, Identity, & Compliance, Serverless, Storage, Supply Chain

- **AWS Certification**
  - 13 Paths: Architecture, Data Analytics, Development, Operations, DevOps, Security, Networking, AI/ML

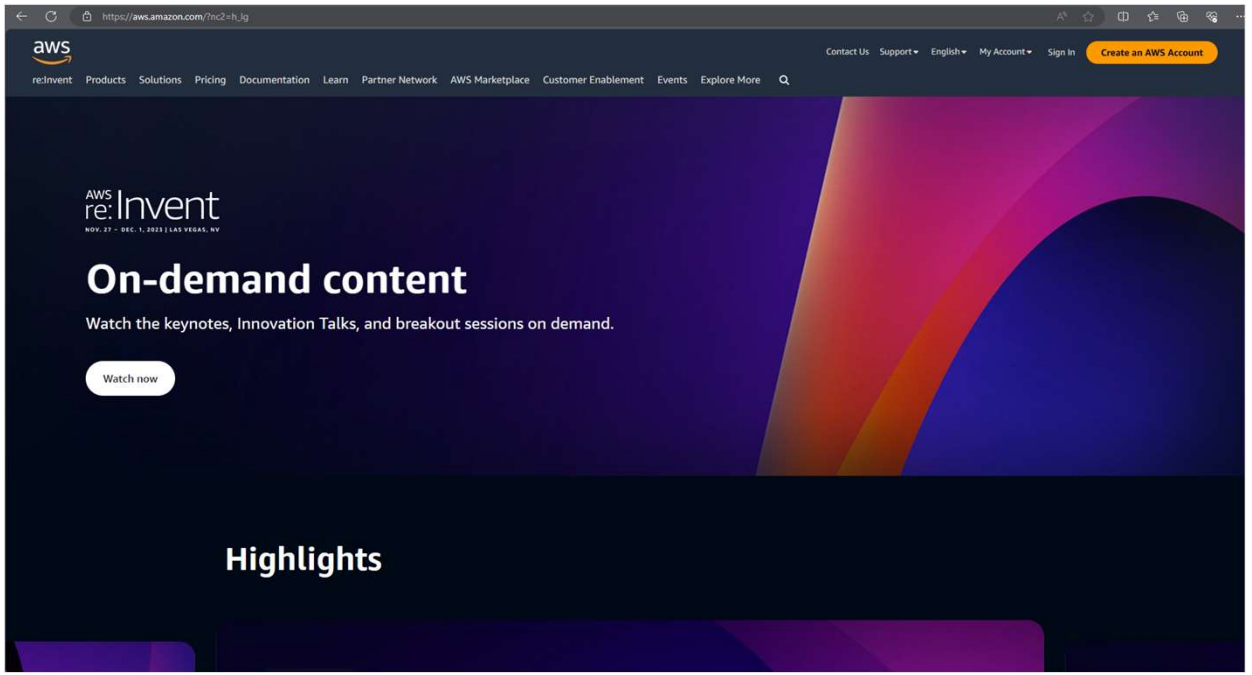
More at aws.amazon.com

ACTIVITY

Explore AWS

Explore AWS

1. Navigate to aws.amazon.com
2. Explore the website
3. Search for and learn more about products, career, training & certifications

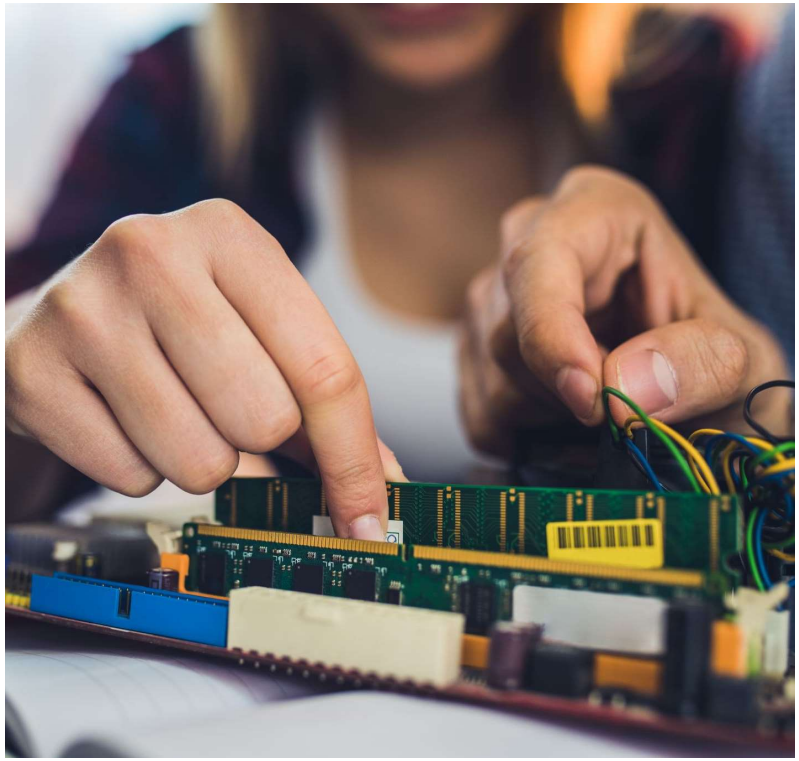


WAREHOUSE

Warehouse Activity

- 1:30-3:00pm
- Laptop RAM Sorting*

*Please put away your laptop bags on the shelf before beginning your warehouse activity



BREAK

5 minutes