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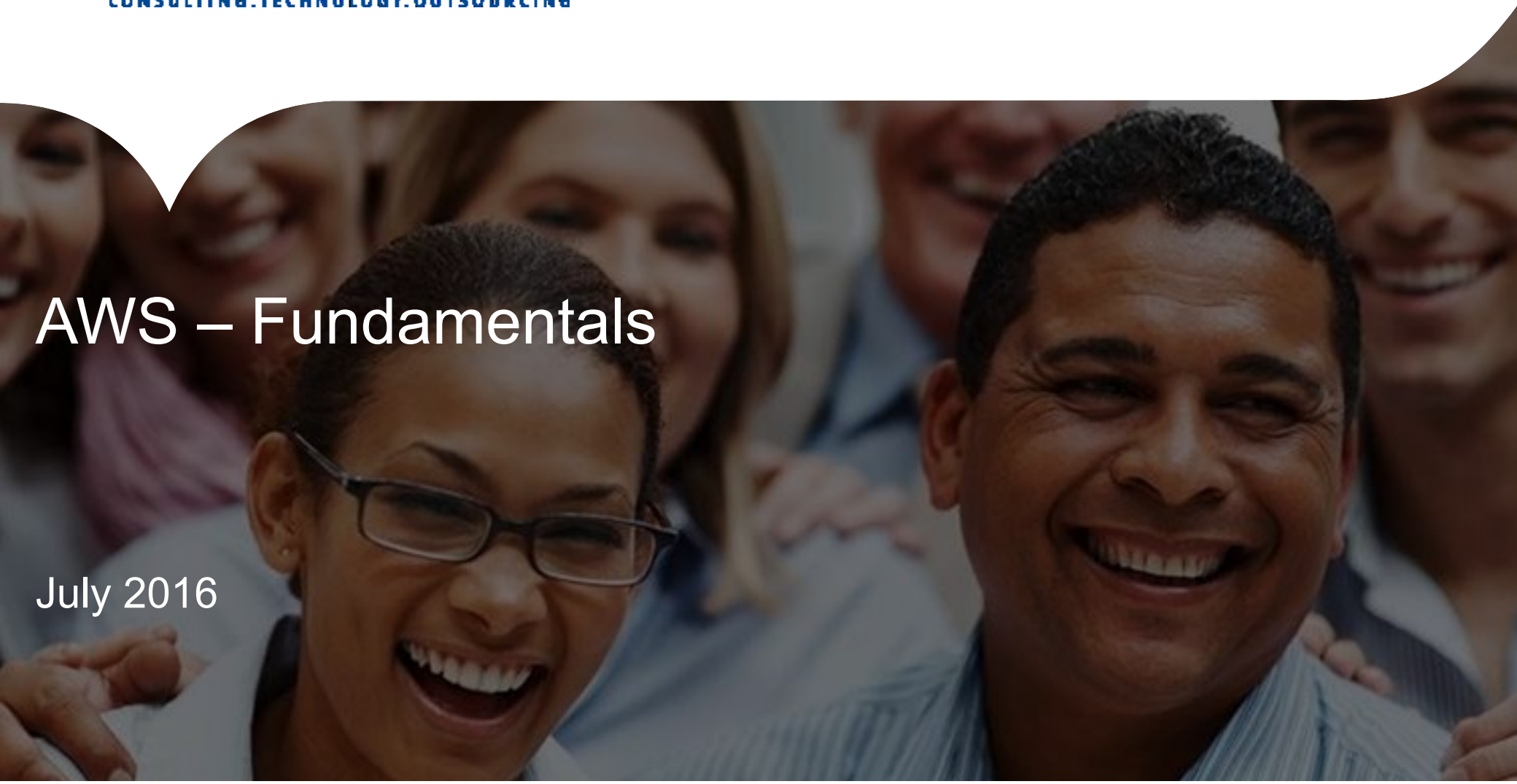


AWS – Fundamentals

July 2016

People matter, results count.

Ground Rules for Face-to-face Classrooms

Everyone participates

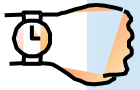
Respect individual opinions and diversities

Be open and honest

Give headlines, be concise

One speaker at a time

Make language a non-issue



Stick to time contracts

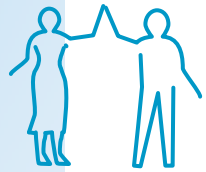
Seek first to understand, and then to be understood

Clean desk / room policy

No mobile phone,
No computer (except for surveys, polls etc)

Clients & Leadership are often around, please remember that

Maintain a spirit of fun and enthusiasm



Ground Rules for Virtual Classrooms

Participate actively in each session

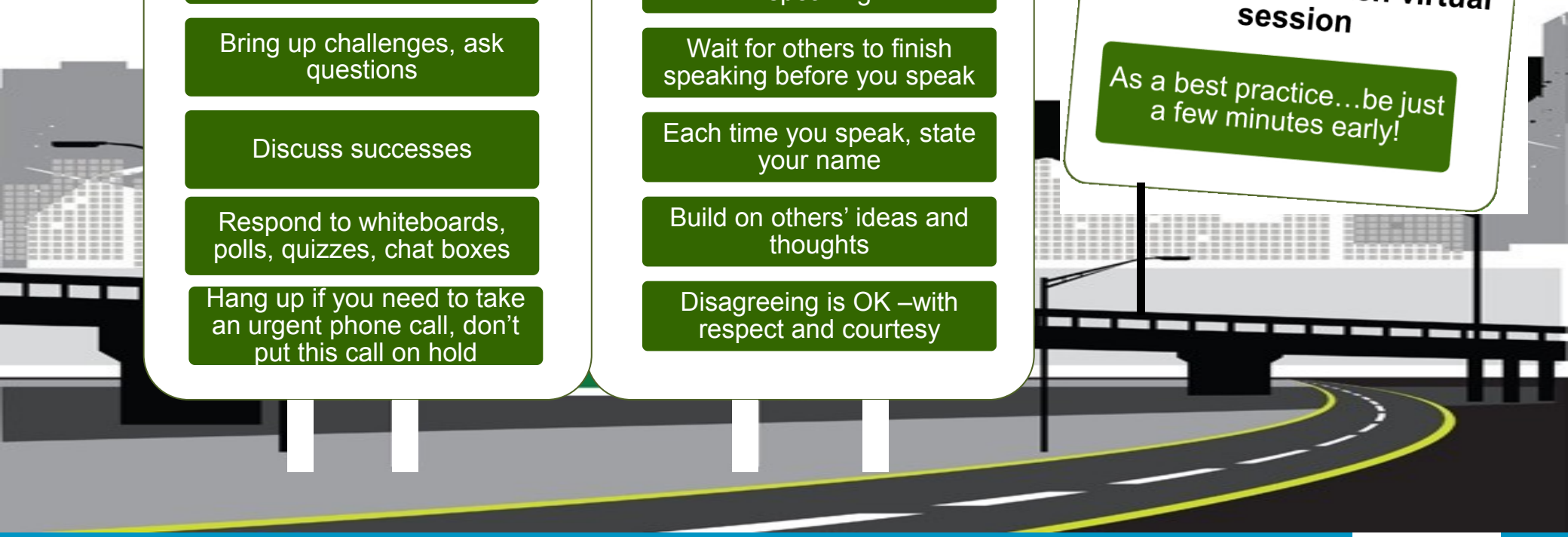
- Share experiences and best practices
- Bring up challenges, ask questions
- Discuss successes
- Respond to whiteboards, polls, quizzes, chat boxes
- Hang up if you need to take an urgent phone call, don't put this call on hold

Communicate professionally with others

- Mute when you're not speaking
- Wait for others to finish speaking before you speak
- Each time you speak, state your name
- Build on others' ideas and thoughts
- Disagreeing is OK –with respect and courtesy

Be on time for each virtual session

As a best practice…be just a few minutes early!



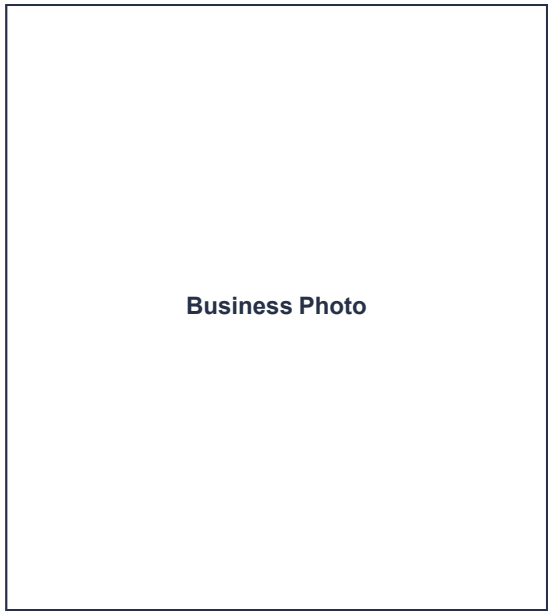
Module at a Glance

SME to provide the details required in the table.

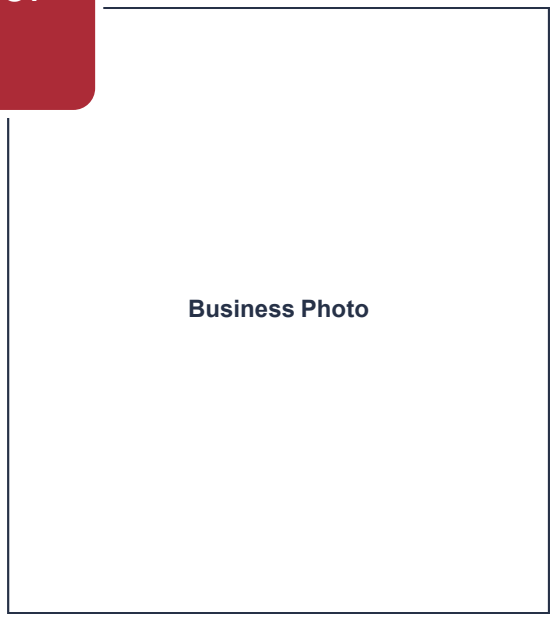
Target Audience:	
Course Level:	*Basic*
Duration (in hours):	30 mins
Pre-requisites, if any:	Java, J2EE , Web Sevices
Post-requisites, if any:	*Submit Session Feedback*
Relevant Certifications:	None

Introductions (for Virtual Classrooms)

SME to provide the photos and names of the facilitators.

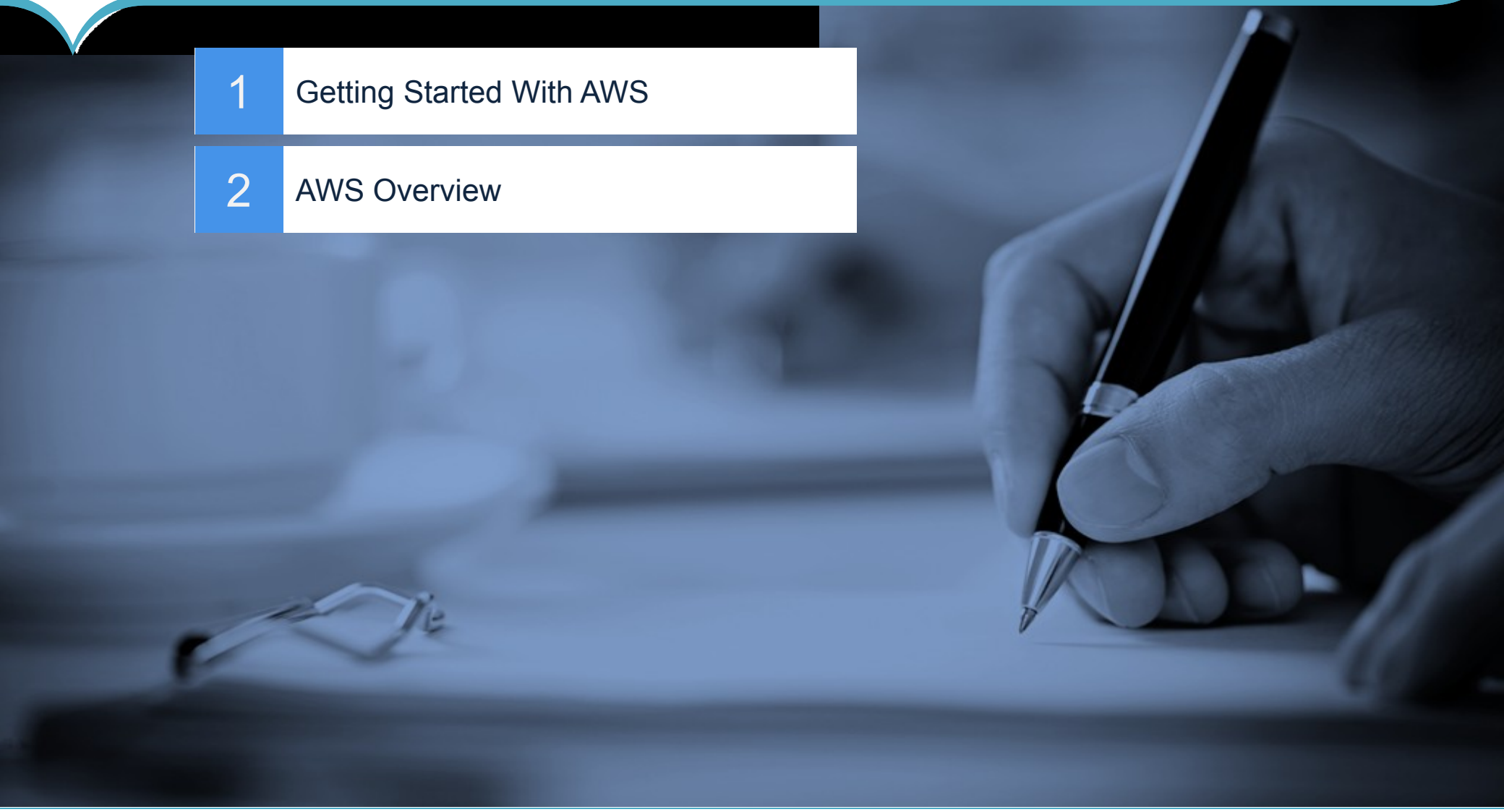


Facilitator
Name
Role



Moderator
Name
Role

Agenda



1. Getting Started With AWS
2. AWS Overview

Module Objectives

Note to the SME : Please provide the module Objectives or validate the partially updated content

What you will learn

At the end of this module, you will learn:

- What is Jenkins

What you will be able to do

At the end of this module, you be able to:

- Understand what is Jenkins
- State how to install Jenkins
- Describe how to create a Simple Job in Jenkins
- List the Plug-ins used in Maven
- Explain the big picture of Jenkins

Getting Started With AWS

What is AWS?

- Amazon Web Services (AWS) provides on-demand computing resources and services in the cloud, with pay-as-you-go pricing.

Uses of AWS

- Store public or private data.
- Host a static website. These websites use client-side technologies (such as HTML, CSS, and JavaScript) to display content that doesn't change frequently. A static website doesn't require server-side technologies (such as PHP and ASP.NET).
- Host a dynamic website, or web app. These websites include classic three-tier applications, with web, application, and database tiers.
- Support students or online training programs.
- Process business and scientific data.
- Handle peak loads.

Accessing AWS

- AWS Management Console
- AWS Command Line Interface (AWS CLI)
- Command Line Tools
- AWS Software Development Kits (SDK)
- Query APIs

AWS Overview

Regions and Availability Zones

Name	Region Code
Asia Pacific (Seoul)	ap-northeast-2
Asia Pacific (Singapore)	ap-southeast-1
Asia Pacific (Sydney)	ap-southeast-2
Asia Pacific (Tokyo)	ap-northeast-1
EU (Frankfurt)	eu-central-1
EU (Ireland)	eu-west-1
South America (São Paulo)	sa-east-1
US East (N. Virginia)	us-east-1
US West (N. California)	us-west-1
US West (Oregon)	us-west-2

Security

- Physical access to AWS data centers is strictly controlled, monitored, and audited.
- Access to the AWS network is strictly controlled, monitored, and audited.
- You can manage the security credentials that enable users to access your AWS account using AWS Identity and Access Management (IAM).
- You can apply ACL-type permissions on your data and can also use encryption of data at rest.
- You can set up a virtual private cloud (VPC), which is a virtual network that is logically isolated from other virtual networks in the AWS cloud.
- You control and configure the operating system on your virtual server.
- You can set up a security group, which acts as a virtual firewall to control the inbound and outbound traffic for your virtual servers.
- You can specify a key pair when you launch your virtual server, which is used to encrypt your login information. When you log in to your virtual server, you must present the private key of the key pair to decrypt the login information.

AWS Product Categories

- Compute and Networking Services
- Storage and Content Delivery Services
- Security and Identity Services
- Database Services
- Analytics Services
- Application Services
- Management Tools

Compute and Networking Services for AWS

- **Amazon EC2**
  - Provides virtual servers in the AWS cloud.
- **Amazon VPC**
  - Provides an isolated virtual network for your virtual servers.
- **Elastic Load Balancing**
  - Distributes network traffic across your set of virtual servers.
- **Auto Scaling**
  - Automatically scales your set of virtual servers based on changes in demand.
- **Amazon Route 53**
  - Routes traffic to your domain name to a resource, such as a virtual server or a load balancer.
- **AWS Lambda**
  - Runs your code on virtual servers from Amazon EC2 in response to events.
- **Amazon ECS**
  - Provides Docker containers on virtual servers from Amazon EC2.

Storage and Content Delivery Services for AWS

- **Amazon S3**
  - Scalable storage in the AWS cloud.
- **CloudFront**
  - A global content delivery network (CDN).
- **Amazon EBS**
  - Network attached storage volumes for your virtual servers.
- **Amazon Glacier**
  - Low-cost archival storage.

Usage Scenarios

Storage Option	Usage
Amazon S3	Use for a wide range of scenarios, from backing up your data, to storing your images and videos (to be accessed directly or through a CDN), to hosting static websites.
Amazon EBS	Use for data that changes frequently and must persist. For example, use EBS volumes as the primary storage for a database or file system, or for applications that require access to raw block level storage.
Instance store volumes	Use instance store volumes for temporary storage of data that changes frequently, such as buffers, caches, or scratch data, or data that is replicated across a fleet of instances. If your data must persist beyond the lifetime of the EC2 instance, use Amazon EBS volumes instead.

Usage Scenarios

Amazon CloudFront	Use CloudFront edge locations to improve the speed of your website. This is especially important if your website displays large media files, such as high-resolution images, audio, or video.
AWS Import/Export	Use AWS Import/Export to transfer data to or from AWS (Amazon S3 buckets, Amazon EBS snapshots, or Amazon Glacier vaults), using portable storage devices. This is a good option if it would be too costly or slow (more than a week) to transfer your data to AWS over the Internet.
AWS Storage Gateway	Use AWS Storage Gateway to provide a seamless and secure connection between an on-premises software appliance and Amazon S3. This is useful for corporate file sharing, enabling existing on premises backup applications to store primary backups in Amazon S3, and data mirroring.
Amazon Glacier	Use Amazon Glacier when cost is paramount, you need the data infrequently, and you can wait several hours for the data to be retrieved. If you need fast or frequent access to your data, use Amazon S3 instead.

Security and Identity Services for AWS

- **AWS Identity and Access Management**
  - Manage user access to AWS resources through policies.
- **AWS Directory Service**
  - Manage user access to AWS through your existing Microsoft Active Directory, or a directory you create in the AWS cloud.

Database Services for AWS

- **Amazon RDS**
  - Provides managed relational databases.
- **Amazon Redshift**
  - A fast, fully-managed, petabyte-scale data warehouse.
- **Amazon DynamoDB**
  - Provides managed NoSQL databases.
- **Amazon ElastiCache**
  - An in-memory caching service.

Analytics Services for AWS

- Amazon EMR (Amazon EMR) uses Hadoop, an open source framework, to manage and process data. Hadoop uses the MapReduce engine to distribute processing using a *cluster.*
- Manages the computing resources and runs your MapReduce program or provides tools like Hive or Pig for queries.
- AWS Data Pipeline makes it easy for you to regularly move and process data.
- Amazon Kinesis enables real-time processing of streaming data at a massive scale.
- Amazon ML makes is easy for developers to use machine learning technology to obtain predictions for their applications using simple APIs.

Application Services for AWS

- **Amazon AppStream**
  - Host your streaming application in the AWS cloud and stream the input and output to your users‘ devices.
- **Amazon CloudSearch**
  - Add search to your website.
- **Amazon Elastic Transcoder**
  - Convert digital media into the formats required by your users' devices.
- **Amazon SES**
  - Send email from the cloud.
- **Amazon SNS**
  - Send or receive notifications from the cloud.
- **Amazon SQS**
  - Enable components in your application to store data in a queue to be retrieved other components.
- **Amazon SWF**
  - Coordinate tasks across the components of your application.

Management Tools for AWS

- **Amazon CloudWatch**
  - Monitor resources and applications.
- **AWS CloudFormation**
  - Provision your AWS resources using templates.
- **AWS CloudTrail**
  - Track the usage history for your AWS resources by logging AWS API calls.
- **AWS Config**
  - View the current and previous configuration of your AWS resources, and monitor changes to your AWS resources.
- **AWS OpsWorks**
  - Configure and manage the environment for your application, whether in the AWS cloud or your own data center.
- **AWS Service Catalog**
  - Distribute servers, databases, websites, and applications to users using AWS resources.

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People matter, results count.

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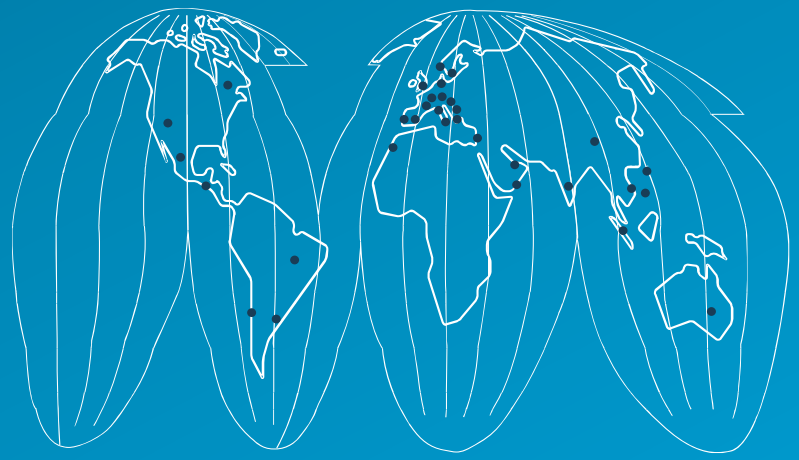

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