AWSOME DAY
ONLINE CONFERENCE

Module 5:
AWS pricing, support and architecting

Navjot Singh
Technical Trainer
AWS

Fundamentals of pricing

How do you pay for AWS?
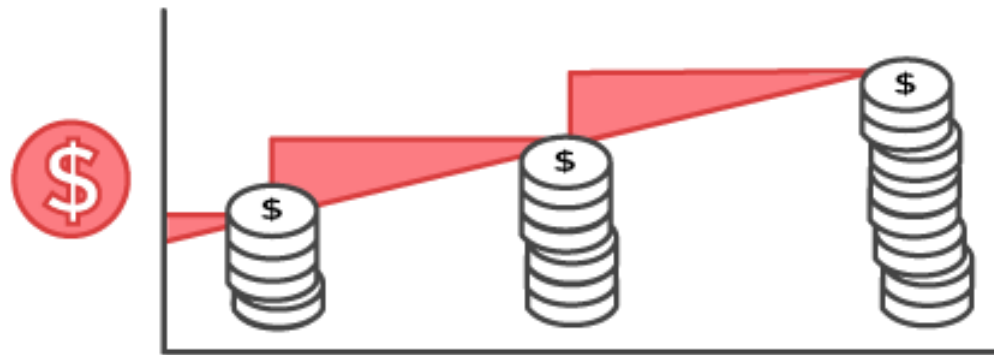
Pay as you go

Save when you reserve

Pay less by using more

Pay as you go

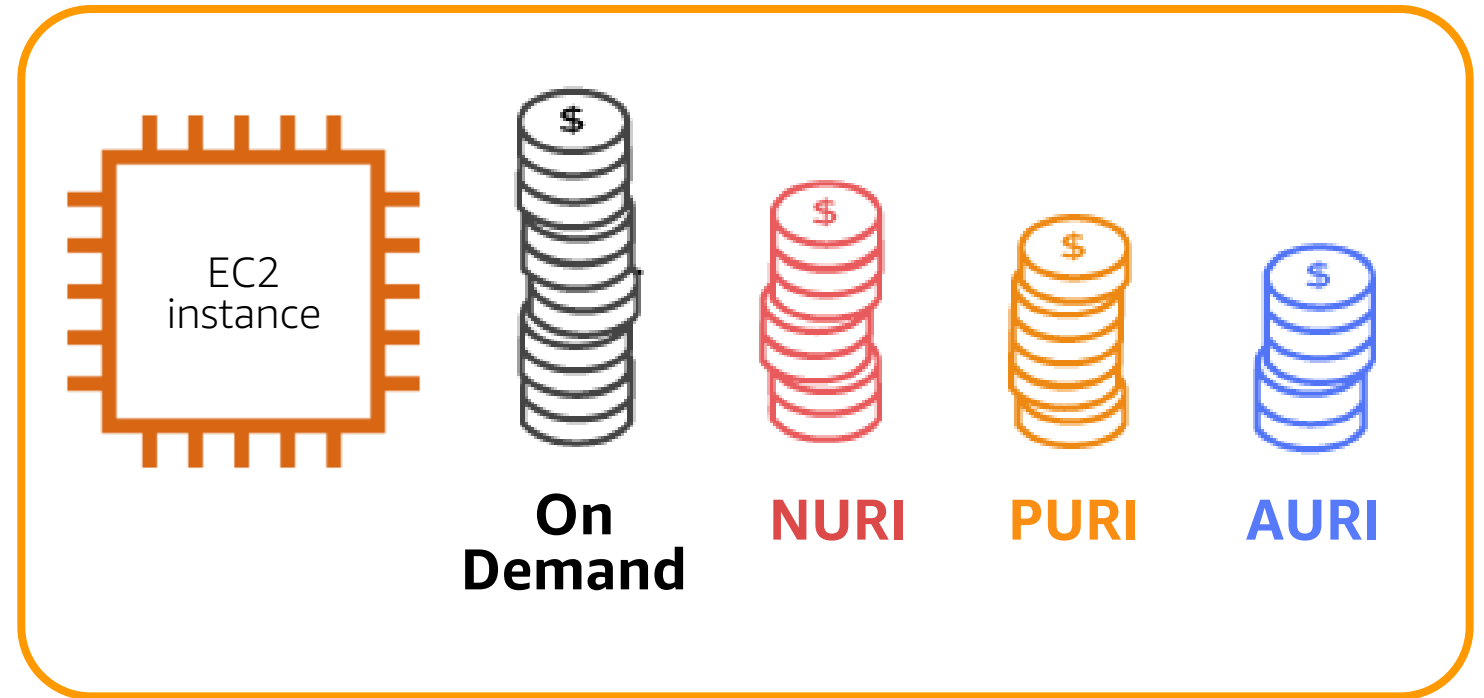Only pay for what you use

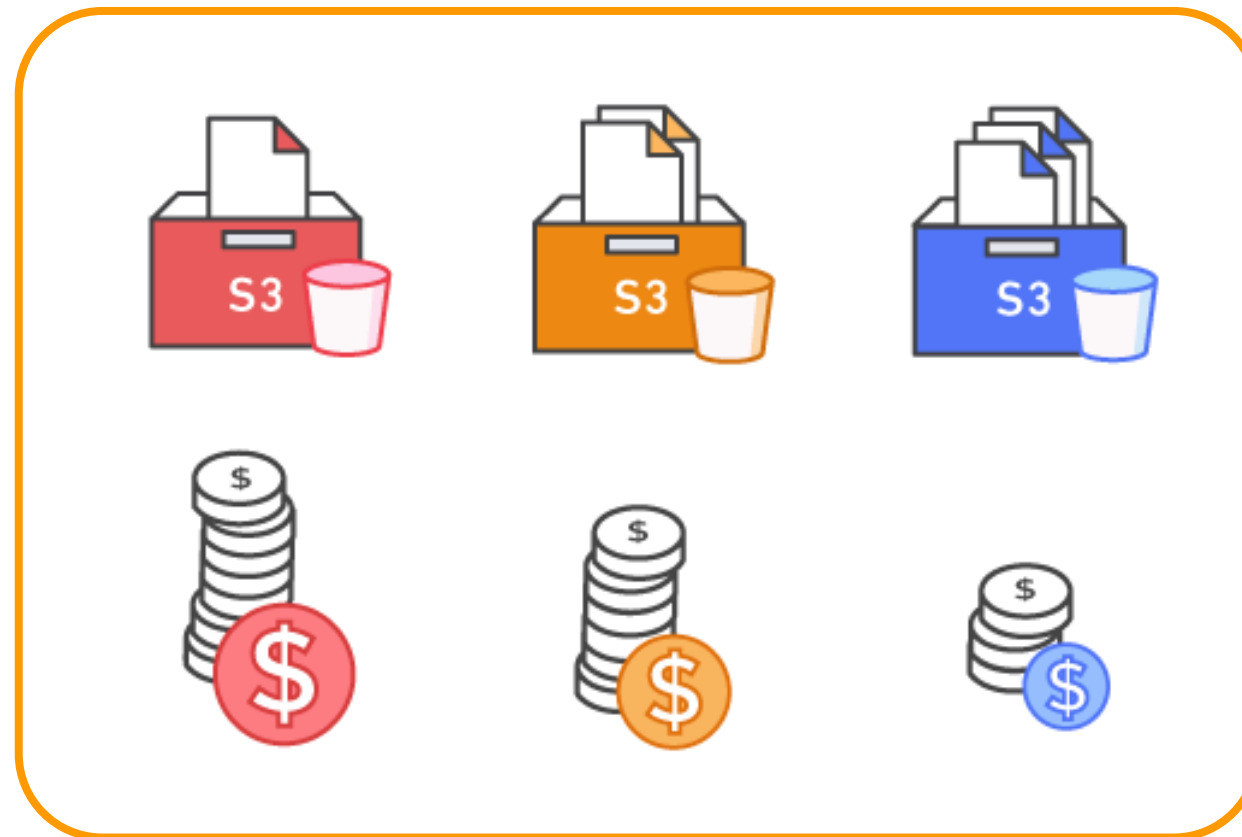**On premises/co-location**

AWS

Save when you reserve: Reserved Instances

- Save up to 75 percent over equivalent on-demand capacity

- Choose
  - No upfront payments (NURI)
  - Partial up-front (PURI)
  - All up-front (AURI)

EC2 instance

On Demand   **NURI**   **PURI**   **AURI**

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Use more, pay less

Automatic volume-based discounts

Pricing concepts

Compute

- Charged per hour/second*
- Varies by instance type
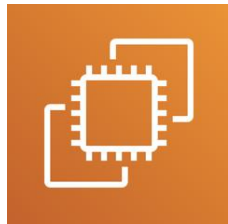
  *Linux only

Storage

- Charged typically per GB

Data transfer

- Outbound is aggregated and charged
- Inbound has no charge (with some exceptions)
- Charged typically per GB

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Different services are priced differently

Amazon
EC2

Amazon
EBS

Amazon
S3

AWS
CloudFormation

Amazon EC2: Four purchase types

On-Demand instances

- Charged per hour/second*
- Short-term
- Unpredictable workloads

Dedicated hosts

- Physical server dedicated to you
- Applications with specific compliance requirements

Reserved instances

- Discount for 1 to 3 year commitments
- Applications with steady state usage

Spot instances

- Spare AWS capacity for up to 90% discount
- Applications with flexible start and end times
- Urgent computing needs for large amounts of capacity

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Demo

Amazon EBS pricing model

Volumes

- Charged by GB provisioned/month
- Varies by volume type

Snapshots

- Charged by space consumed in Amazon S3
- Charged for volume copied across regions

Data transfer

- Inbound data transfer is free
- Outbound data transfer charges are tiered

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Amazon S3 pricing model

Amount of storage used
- Region   ■ Storage class

Number and type of requests
(GET, PUT, COPY)

Amount of data transferred
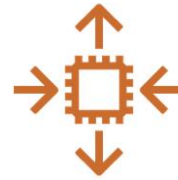out of the region

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AWS services with no additional charge

Amazon
VPC

Elastic
Beanstalk

Auto
scaling

AWS
CloudFormation

AWS Identity
and Access
management (IAM)

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Cost estimating tools

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AWS free tier

Enables you to gain free hands-on experience with
the AWS platform, products, and services.
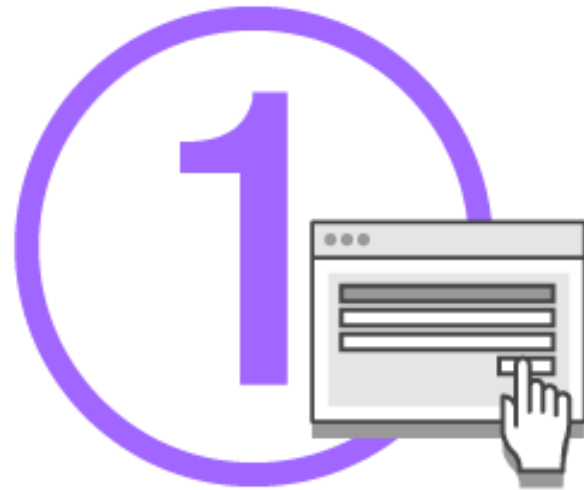
1 Sign up for an
AWS account

2 Learn with
10-minute tutorials

3 Start building
with AWS

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AWS simple monthly calculator

- Estimate your monthly bill
- Per-service cost breakdown
- Aggregate monthly estimate
- Provides common customer examples

Analyzing with AWS cost explorer

Get started
quickly

Set custom
intervals

Filter/group
data

Forecast cost
and usage

Save
progress

Access data
programmatically

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What is Trusted Advisor?

A service providing guidance to help you reduce cost, increase performance, and improve security

Cost optimization	Performance	Security	Fault tolerance	Service limits
0 ✅ 9 ⚠️ 0 ⓘ	3 ✅ 7 ⚠️ 0 ⓘ	2 ✅ 4 ⚠️ 11 ❗	0 ✅ 15 ⚠️ 5 ❗	37 ✅ 0 ⚠️ 1 ❗

$7,516.87
Potential monthly savings

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AWS support

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Support plan overview

Basic

Customer service

Support forums

Service health checks

Documentation, whitepapers, and best-practice guides

Developer

Best-practice guidance

Client-side diagnostic tools

Building-block architecture support

Business

Use-case guidance

IAM for controlling individuals' access to AWS Support

Full AWS trusted advisor

An API for interacting with support center and Trusted Advisor

Third-party software support

Enterprise

Application architecture guidance

Infrastructure event management

Technical Account Manager (TAM)

White-glove case routing

Management business reviews

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The AWS well-architected framework

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What is the well-architected framework?

A guide for designing infrastructures that are:

- Secure
- High-performing
- Resilient
- Efficient

A systematic approach to evaluating and implementing architectures

Established best practices developed through lessons learned by working with customers

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Five pillars of the framework

Operational excellence   Security   Reliability   Performance efficiency   Cost optimization

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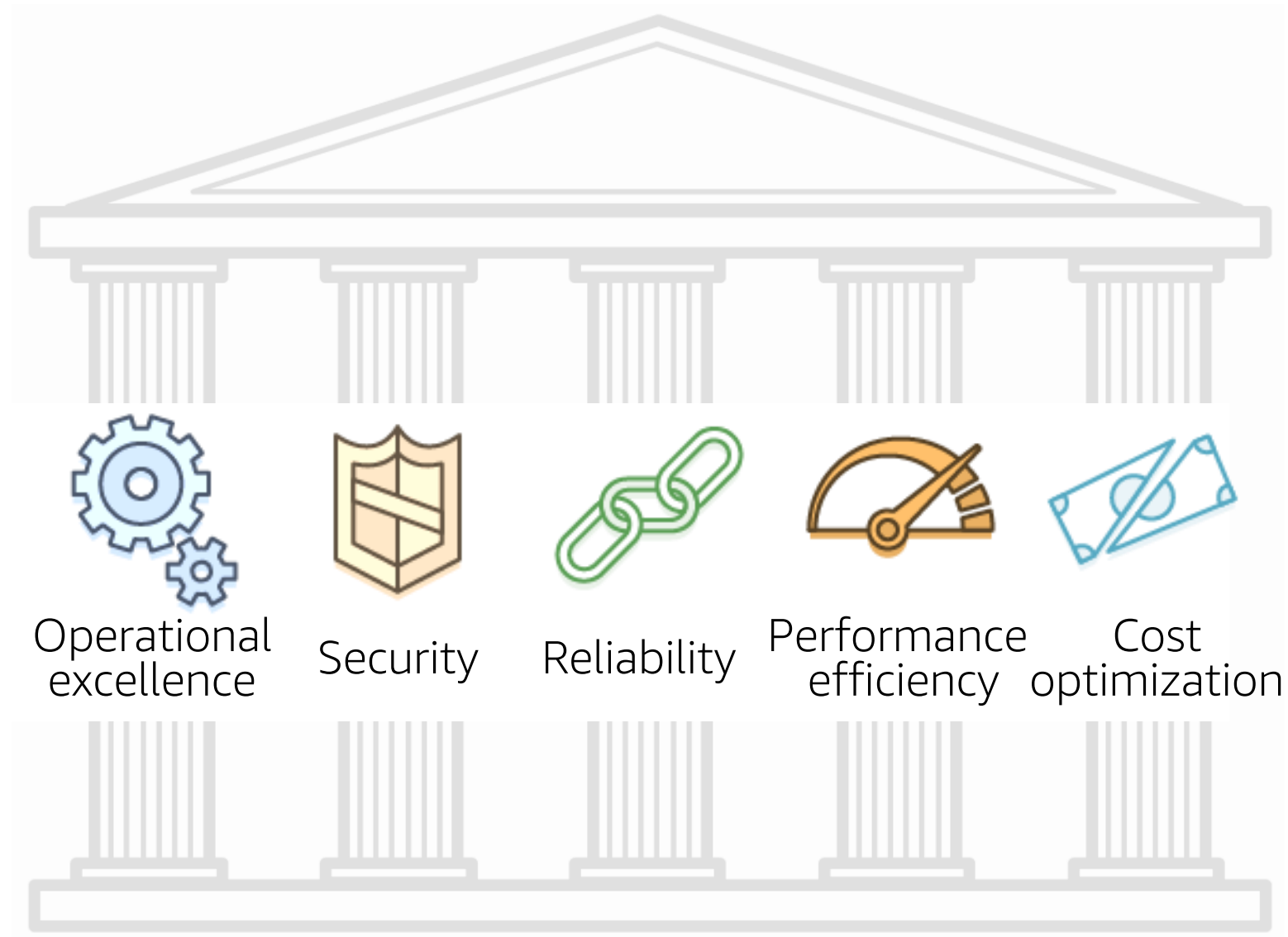
Example: Improving availability with Elastic Load
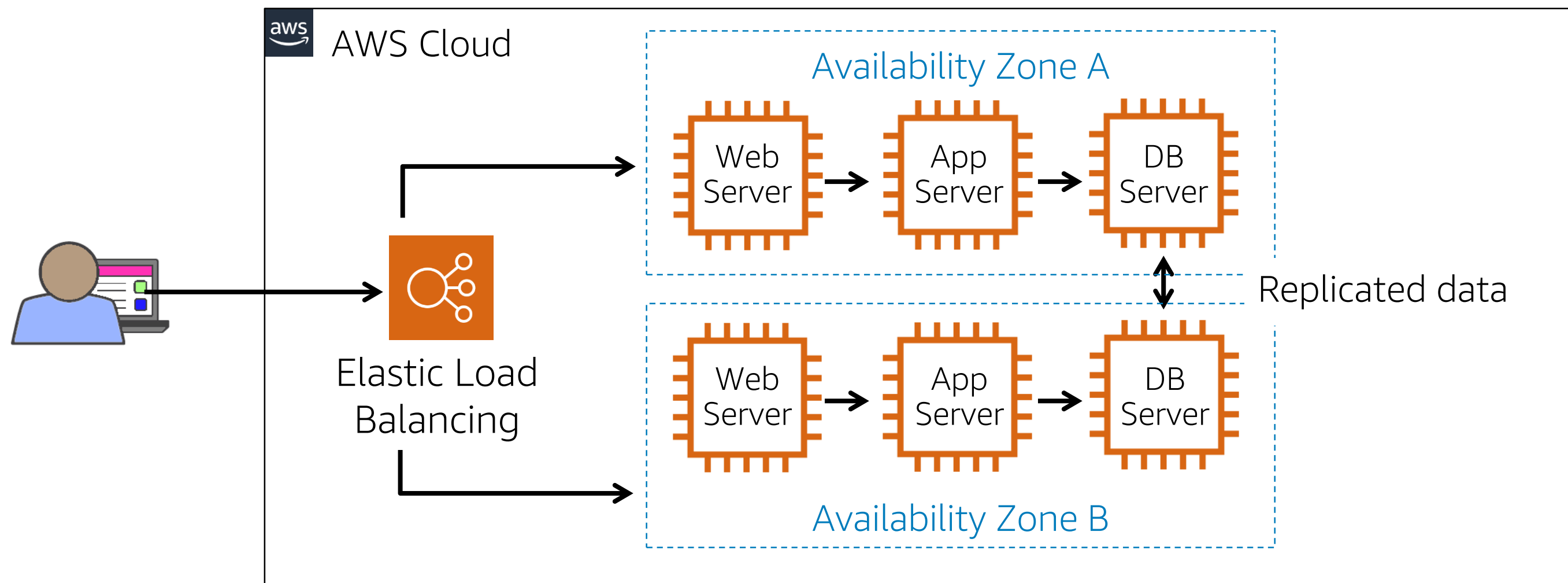
Example: Web application hosting
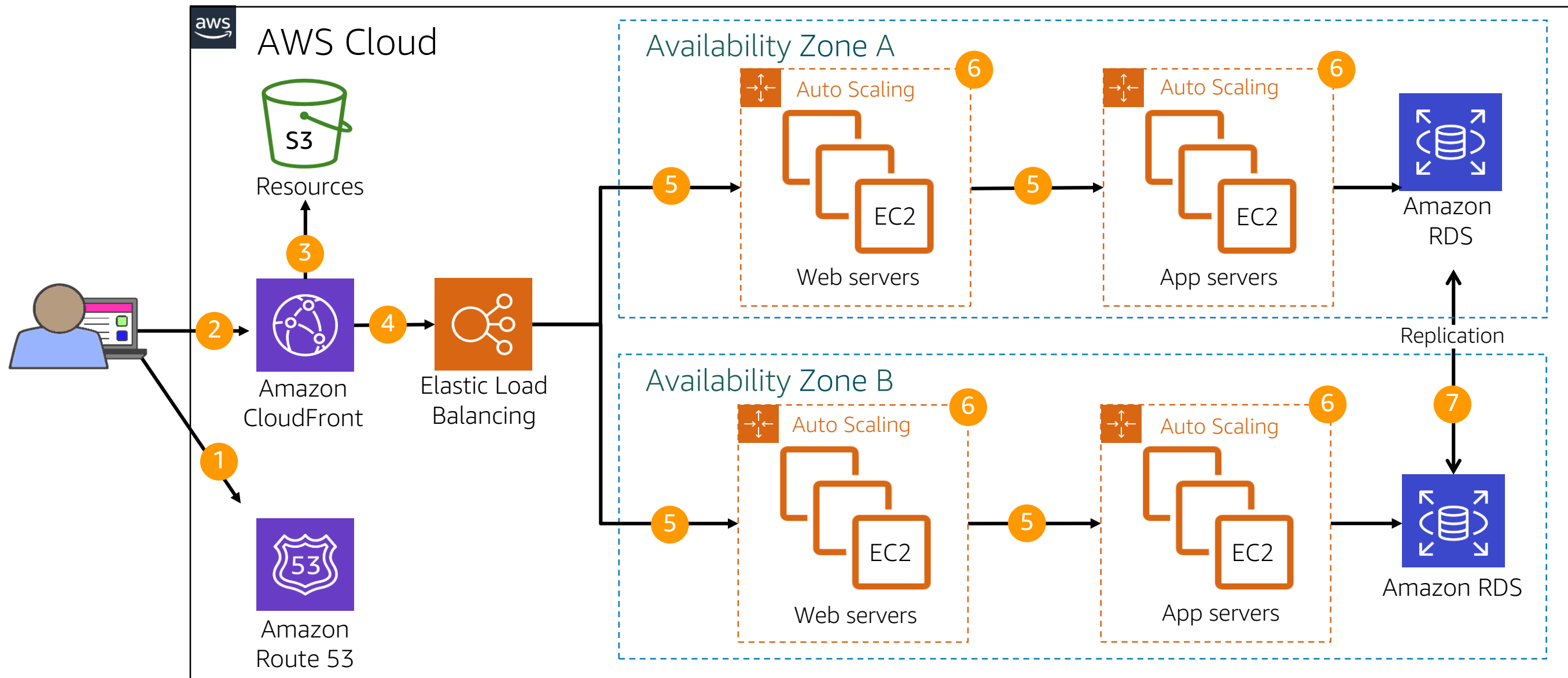
Closing Remarks

AWS Training and Certification

Your path to success

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Achieve your AWS cloud ROI

AWS Training and Certification leads to measurable results ...

Faster time-to-market	Increased profitability	Lower business risk	Increased employee engagement

*Source: IDC White Paper, sponsored by AWS, *Train to Accelerate Your Cloud Strategy*, October 2017*
~Source: 2018 Global Knowledge IT Skills and Salary Report

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Achieve your AWS cloud ROI

AWS Training and Certification leads to measurable results …

80% faster to adopt cloud*

Increased profitability

Lower business risk

Increased employee engagement

*Source: IDC White Paper, sponsored by AWS, *Train to Accelerate Your Cloud Strategy*, *October 2017*
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Achieve your AWS cloud ROI

AWS Training and Certification leads to measurable results …

80% faster to adopt cloud*

4.7x more likely to improve IT staff productivity*

Lower business risk

Increased employee engagement

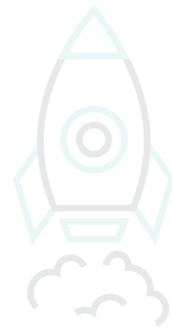*Source: IDC White Paper, sponsored by AWS, *Train to Accelerate Your Cloud Strategy*, *October 2017*
~Source: 2018 Global Knowledge IT Skills and Salary Report

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Achieve your AWS cloud ROI

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4.7x more likely to improve IT staff productivity*

4.4x more likely to overcome operational and performance concerns*

Increased employee engagement

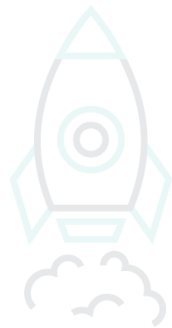*Source: IDC White Paper, sponsored by AWS, *Train to Accelerate Your Cloud Strategy*, October 2017
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Achieve your AWS cloud ROI

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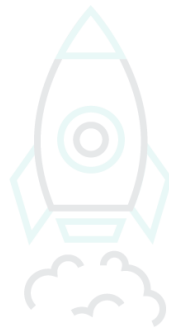
4.7x more likely to improve IT staff productivity*

4.4x more likely to overcome operational and performance concerns*

30% increased employee satisfaction, leading to retention

*Source: IDC White Paper, sponsored by AWS, *Train to Accelerate Your Cloud Strategy*, *October 2017*
~Source: 2018 Global Knowledge IT Skills and Salary Report

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Training developed by the experts at AWS

Digital training
Free, on-demand courses so your team can learn about the latest services when and where it's convenient

Classroom training
In-person and virtual training from instructors who teach your team in a hands-on learning environment

AWS certification
Identify skilled professionals to lead cloud initiatives using AWS

https://www.aws.training

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AWS learning paths

Role-based Paths

Cloud Practitioner
This path is intended for individuals who want to learn AWS Cloud fundamentals and best practices.

Developer
This path is intended for software developers who want to learn how to develop cloud applications on AWS.

Architect
This path is intended for solutions architects, solution design engineers, and anyone who wants to learn how to design applications and systems on AWS.

Operations
This path is intended for SysOps administrators, systems administrators, and those in DevOps roles.

Specialty Paths

Big Data
This path is intended for anyone who wants to learn to design and implement AWS services to derive value from data.

Security
This path is intended for anyone who wants to learn processes and best practices for securing the AWS platform.

Advanced Networking
This path is intended for anyone who wants to design and implement AWS and hybrid IT architectures at scale.

AWS Solutions Paths

Machine Learning
This path is intended for learners to dive deep into the same machine learning (ML) curriculum used to train Amazon's developers and data scientists.

AWS Media Services
This path is intended for anyone who wants to learn how AWS Media Services can create professional-quality media experiences without the time, effort, or expense that are typically required to run specialized video equipment.

Storage
This path is intended for enterprise storage engineers to learn how to architect and manage highly available solutions, with a focus on AWS storage services.

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Over 400 courses to help you build new cloud skills

Free on-demand digital courses

MACHINE LEARNING			
Title	**Description**	**Duration**	**Course level**
RekogRobot: Build a Robot with AWS AI Services	Do you want to build a robot? We will show you how to build one that moves, identifies objects, and gives you audio based on what it sees—and you can control it with your voice. In this course, we will walk you through building a robot using a Raspberry Pi with AWS machine learning services like Amazon Rekognition, Amazon Lex, Amazon Polly, and AWS Lambda functions. You will learn how to control it with either voice and text or a web interface.	20 minutes	Intermediate
Satellite Image Classification in SageMaker	This course begins with a thorough walk-through of the machine learning process and a discussion of how to frame the business problem for satellite image recognition. You will learn about current approaches and methods for gathering and classifying satellite image data, as well as the process for assembling training data. The second part of this course deals with the technical aspects of satellite image recognition, specifically data acquisition and feature recognition.	20 Minutes	Intermediate
Types of Machine Learning Solutions	As you dive deeper into studying machine learning, the areas of focus split into three different disciplines: computer vision, natural language processing, and chatbots. Blaine Sundrud of AWS Training and Certification walks you through what each discipline covers in terms of practical applications and lays out the AWS services used in each track, so you can choose the learning path that best fits your needs.	15 minutes	Intermediate
Understanding Neural Networks	The backbone of machine learning is the neural network. In this course, you will learn about single-layer neural networks, convolutional neural networks, and recurrent neural networks.	10 minutes	Intermediate
Advanced Analytics with Amazon SageMaker	This course is presented in two parts and provides an in-depth exploration of Amazon SageMaker, its features, and its benefits when used in conjunction with Apache Spark.	25 minutes	Advanced
Amazon Transcribe Deep Dive: Using Feedback Loops to Improve Confidence Level of Transcription	This demonstration shows you how to use a feedback loop to process custom vocabulary to improve transcription generated by the Amazon Transcribe service. We will also review some use cases so you can see how it works in the real world.	40 minutes	Advanced
Anomaly Detection on AWS	Explore some of the more practical aspects of building anomaly detection applications on AWS, using Amazon Kinesis Data Analytics and Amazon SageMaker.	25 minutes	Advanced

AWS classroom training

ARCHITECTING			
Title	**Description**	**Duration**	**Course level**
AWS Business Essentials	In this course, you will learn the benefits of cloud computing and how a cloud strategy can help you meet your business objectives. This course explores the advantages of cloud computing for your business and the fundamentals of AWS, including financial benefits. It also introduces compliance and security concepts to help you consider the AWS platform within your cloud computing strategy.	1 day	Foundational
AWS Technical Essentials	AWS Technical Essentials introduces you to AWS products, services, and common solutions. It provides you with the fundamentals to become more proficient in identifying AWS services so that you can make informed decisions about IT solutions based on your business requirements and get started working on AWS.	1 day	Foundational
Secrets to Successful Cloud Transformations	In this course, you will learn how to select the right strategy, people, migration plan, and financial management methodology to move your workloads to the AWS Cloud. You will learn how to build a holistic cloud adoption plan and how to hire people to execute that plan, and gain best practices for choosing workloads to migrate from your on-premises environment to AWS.	1 day	Foundational
Architecting on AWS	This course shows you the fundamentals of building IT infrastructure on the AWS platform. You will learn how to optimize the AWS Cloud by understanding AWS services and how they fit into cloud-based solutions, explore best practices and design patterns to help you architect optimal IT solutions on AWS, and then build and explore a variety of infrastructures through guided, hands-on activity.	3 days	Intermediate
Advanced Architecting on AWS	Building on concepts introduced in Architecting on AWS, this course covers how to build complex solutions that incorporate data services, governance, and security on AWS.	3 days	Advanced

https://www.aws.training

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AWS certification

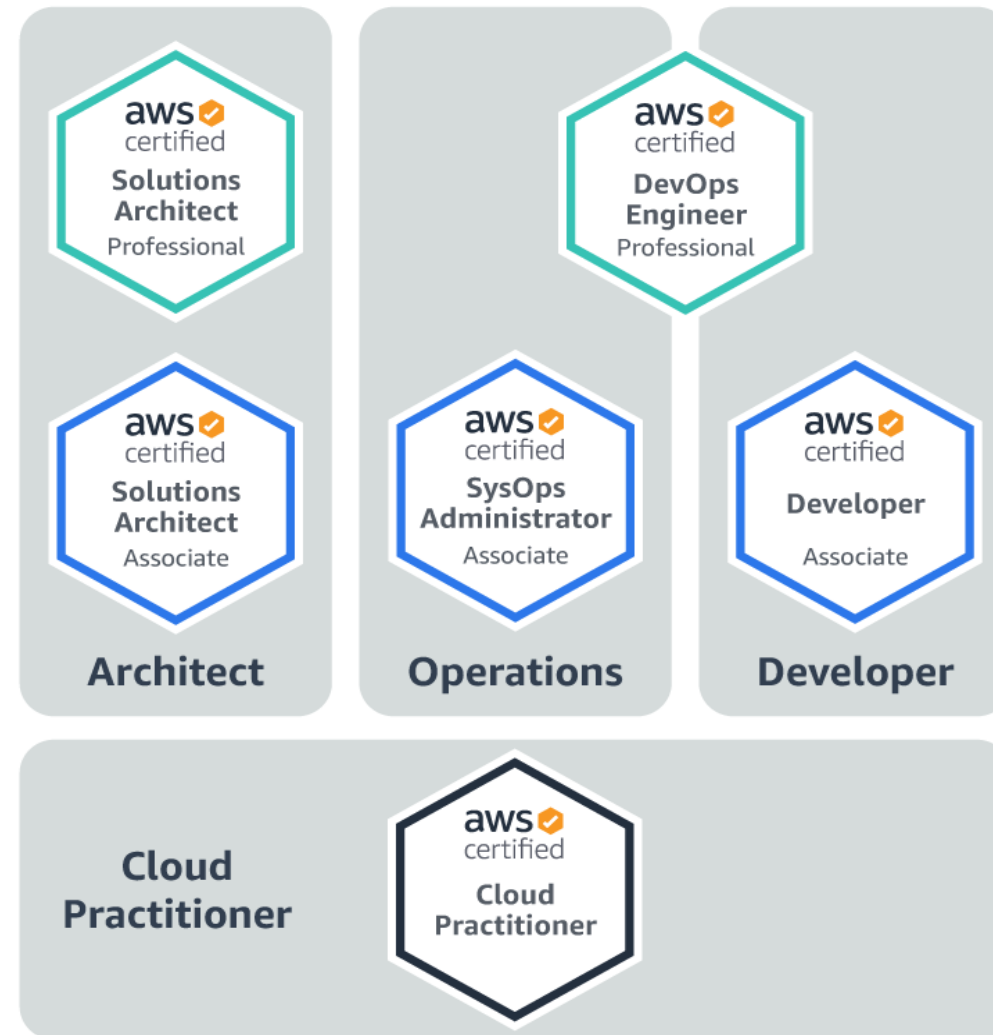## Available AWS certifications

Professional

Two years of comprehensive experience designing, operating, and troubleshooting solutions using the AWS Cloud

Associate

One year of experience solving problems and implementing solutions using the AWS Cloud

Foundational

Six months of fundamental AWS Cloud and industry knowledge

aws certified
Solutions Architect
Professional

aws certified
DevOps Engineer
Professional

aws certified
Solutions Architect
Associate

aws certified
SysOps Administrator
Associate

aws certified
Developer
Associate

Architect

Operations

Developer

Cloud Practitioner

aws certified
Cloud Practitioner

Specialty

Technical AWS Cloud experience in the Specialty domain as specified in the **exam guide**

aws certified
Advanced Networking
Specialty

aws certified
Big Data
Specialty

aws certified
Security
Specialty

aws certified
Machine Learning
Specialty

aws certified
Alexa Skill Builder
Specialty

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How to prepare for AWS certification

STEP 1

Take an AWS Classroom or Digital Training course

Training can help you advance your technical skills and learn best practices for working with AWS.

STEP 2

Review the exam guide and sample questions

See the concepts covered in the exam to get a blueprint of what you need to study. You'll also find recommended AWS Training, AWS whitepapers, and FAQ.

Don't skip the sample questions, which can help you check your knowledge and pinpoint concepts and areas requiring more study.

STEP 3

Study AWS whitepapers and FAQs

Broaden your technical understanding with whitepapers and FAQs written by the AWS team, independent analysts, and AWS partners.

STEP 4

Take Exam Readiness Training

Prepare for your AWS Certification exam with Exam Readiness Training by AWS. We'll teach you how to interpret exam questions and allocate your study time. Explore **Exam Readiness courses**.

STEP 5

Take a practice exam

Test your knowledge online in a timed environment. Register at **aws.training**.

STEP 6

Schedule your exam and get AWS Certified

Schedule your exam at a testing center near you at **aws.training**.

Learn more: aws.amazon.com/certification/certification-prep/

Certificate of attendance

Thank you for attending

A kind reminder to complete the feedback form – let us know what you thought of today's event and how we can improve the event experience for you in the future.

aws-apac-marketing@amazon.com

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End of Module 5
Test your knowledge

Access the quizzes with the "test your knowledge" button at the bottom of the page.