

AWS CERTIFIED

CLOUD

PRACTITIONER



Billing and Pricing



**AMBER ISRAELSEN**

Developer | Technical Trainer

# Course Outline

Course  
Introduction

Cloud Concepts

Security and  
Compliance

Cloud  
Technology and  
Services

Billing, Pricing  
and Support

Preparing for  
the Exam

# EC2 Instance Pricing Models

	ON-DEMAND	SPOT	RESERVED	SAVINGS PLAN
WHAT IS IT?	<ul style="list-style-type: none"> <li>• Pay as you use it</li> <li>• No up-front commitment</li> </ul>	<ul style="list-style-type: none"> <li>• Bid on AWS's spare capacity</li> </ul>	<ul style="list-style-type: none"> <li>• Commitment of 1-3 years</li> </ul>	<ul style="list-style-type: none"> <li>• Commitment of 1-3 years</li> <li>• Savings on the commitment; on-demand pricing after that</li> </ul>
COST	<ul style="list-style-type: none"> <li>• Most expensive option</li> </ul>	<ul style="list-style-type: none"> <li>• Least expensive option</li> <li>• Up to 90% savings over on-demand</li> </ul>	<ul style="list-style-type: none"> <li>• 30%-60% savings over on-demand</li> </ul>	<ul style="list-style-type: none"> <li>• Less expensive than on-demand</li> </ul>
BEST USED FOR	<ul style="list-style-type: none"> <li>• General use</li> <li>• Trying things out</li> </ul>	<ul style="list-style-type: none"> <li>• Interruptible workloads</li> </ul>	<ul style="list-style-type: none"> <li>• Steady, known workloads</li> </ul>	<ul style="list-style-type: none"> <li>• Steady, known workloads, but with more flexibility than RI</li> </ul>
IMPORTANT POINTS	<ul style="list-style-type: none"> <li>• Flexible and easy to work with</li> </ul>	<ul style="list-style-type: none"> <li>• Instance can be terminated at any time</li> </ul>	<ul style="list-style-type: none"> <li>• Pay for capacity regardless of usage</li> </ul>	<ul style="list-style-type: none"> <li>• Introduced 2019</li> <li>• Flexible and easy to work with</li> </ul>



**Explore Free Tier products with a new AWS account.**

To learn more, visit [aws.amazon.com/free](https://aws.amazon.com/free).



## Sign up for AWS

**Email address**

You will use this email address to sign in to your new AWS account.

**Password**

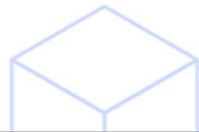
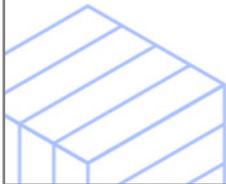
**Confirm password**

**AWS account name**

Choose a name for your account. You can change this name in your account settings after you sign up.

[Continue \(step 1 of 5\)](#)

[Sign in to an existing AWS account](#)





ORGANIZATION

A policy attached at this OU level will apply to the Legal and HR accounts

Root

OU

IT Dept Account

A box containing an icon of two people and a cube, with the text "IT Dept Account" below it.

Finance Dept Account

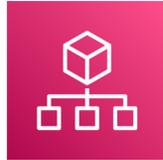
A box containing an icon of two people and a cube, with the text "Finance Dept Account" below it.

Legal Dept Account

A box containing an icon of two people and a cube, with the text "Legal Dept Account" below it.

HR Dept Account

A box containing an icon of two people and a cube, with the text "HR Dept Account" below it.



# Benefits of AWS Organizations

Centrally manage multiple accounts,  
including permissions

## Consolidated billing

- Receive a single bill for all accounts in the organization
- Track combined costs, but can itemize by account
- Can share discount pricing (Reserved Instances, Savings Plans) across accounts



# DEMO

Working with Organizations, Accounts and  
AWS Control Tower



Willkommen in München, dem Tor zur Welt

M1097

M1102

M152

SunExpress

airberlin



# DEMO

Working with the Billing Dashboard



# DEMO

Working with AWS Cost Explorer



# DEMO

Working with AWS Pricing Calculator

# AWS Budgets vs. CloudWatch Billing Alerts/Alarms

## AWS BUDGETS

Used to create and track budgets and send alerts

Can receive alerts based on actual spend AND forecasted spend

Can filter alarms by region and service

Create budgets for cost, usage, Savings Plans and Reservations

Newer service

## CLOUDWATCH BILLING ALERTS

More limited than Budgets; only used to send alerts

Can receive alerts based on actual spend only

Filtering by region is not possible



# DEMO

Setting up AWS Budgets and  
CloudWatch Billing Alerts/Alarms



# DEMO

**IMPORTANT:**

**Deleting Resources Used in the Course**

# Resource Types to Query

AWS::EC2::Instance  
AWS::EC2::Volume  
AWS::Lambda::Function  
AWS::S3::Bucket  
AWS::CloudFront::Distribution  
AWS::RDS::DBInstance  
AWS::DynamoDB::Table  
AWS::CloudFormation::Stack  
AWS::CloudTrail::Trail  
AWS::SNS::Topic  
AWS::SQS::Queue  
AWS::CodeCommit::Repository  
AWS::CodePipeline::Pipeline  
AWS::Cloud9::Environment  
AWS::CloudWatch::Alarm

# Billing and Pricing: Important Points to Remember

## PRICING PLANS FOR EC2

- On-demand is the easiest, but most expensive
- Spot instances allow you to bid on excess capacity (up to 90% savings), but instances can be terminated at any time
- Reserved offers 30-60% savings for reservations of 1-3 years
- Savings Plans combine on-demand and reserved; you receive savings on the commitment of 1-3 years and then get on-demand pricing after that

## ACCOUNTS AND ORGANIZATIONS

- Organizations are a collection of accounts
- Enable consolidated billing (costs for all accounts roll up into a single bill)
- Can share discounted pricing across accounts

## COST ALLOCATION TAGS

- Once activated, can be used to group and filter charges (such as “createdBy”)

# Billing and Pricing: Important Points to Remember

## BILLING DASHBOARD

- Provides a snapshot of costs by service, forecasted costs, etc.

## COST EXPLORER

- Provides a way to drill into specific charges and group/filter by service, region, tags, etc.
- Can provide a forecast of charges based on existing usage

## AWS PRICING CALCULATOR

- Prior iterations were called the “Total Cost of Ownership” (TCO) Calculator and the “Simple Monthly Calculator”
- Publicly available at [calculator.aws](https://calculator.aws)
- Provides an estimate of costs based on the services chosen (useful for existing customers, as well as those who are evaluating AWS)

# Billing and Pricing: Important Points to Remember

## AWS BUDGETS

- Create and track budgets and send alerts
- Alerts can be based on actual AND forecasted spend
- Can filter alarms by region and service
- Budgets can be created for cost, usage, Savings Plans and Reservations

## CLOUDWATCH BILLING ALERTS/ALARMS

- Activated through Billing (not through CloudWatch)
- More limited than Budgets; only used to send alerts
- Alerts can only be based on actual spend (NOT forecasted)
- Filtering by region is not possible