

iamneo



AWS Introduction - Session 3

Agenda

- AWS Economics
- Design Principles
- AWS Account Creation



AWS Economics: Lowering Your Costs in the Cloud

Learn how to leverage AWS pricing models and the Free Tier to save money. We'll cover On-demand, Reserved, and Spot instances, as well as strategies for cost optimization and TCO analysis.



AWS Economics

Different Pricing Models

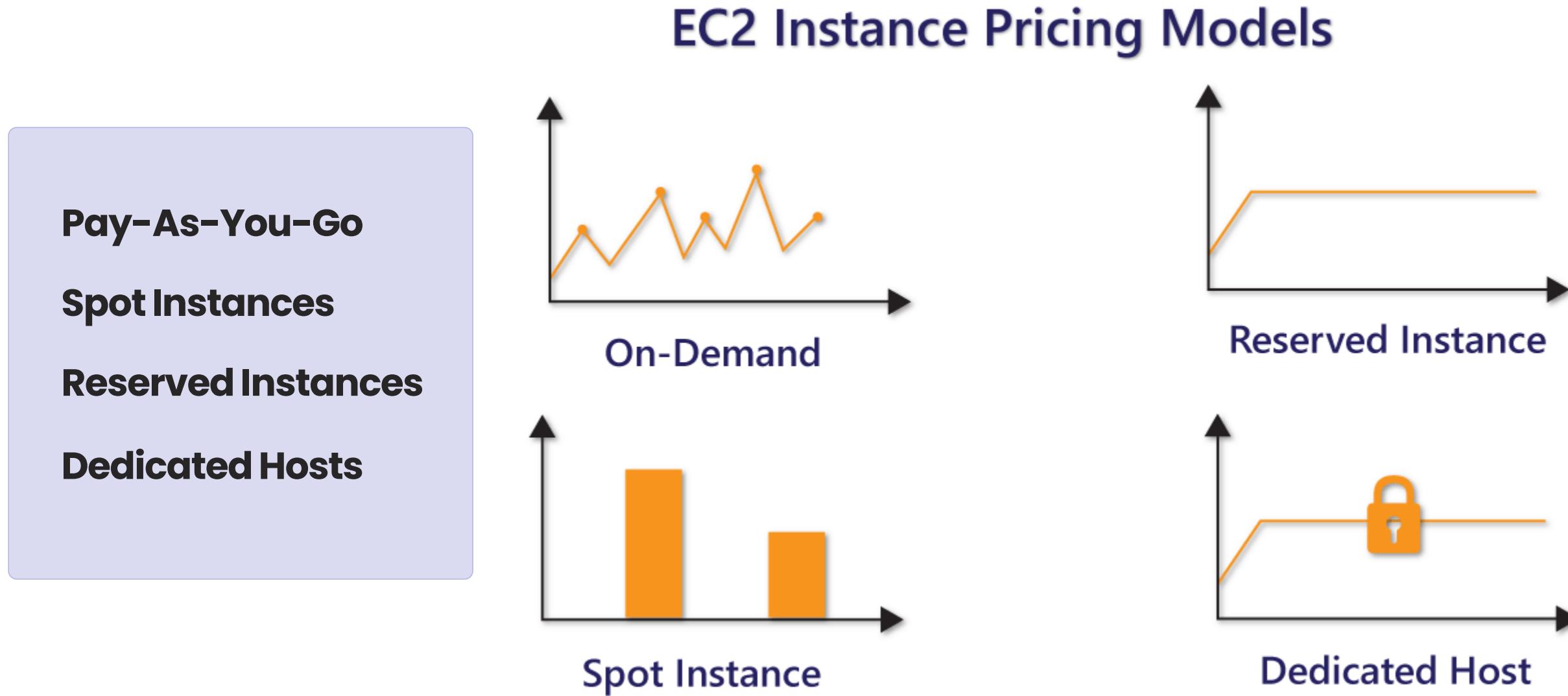
Cost Optimization Techniques

Total Cost of Ownership (TCO) Analysis

Understanding Billing and Pricing



AWS Pricing Model



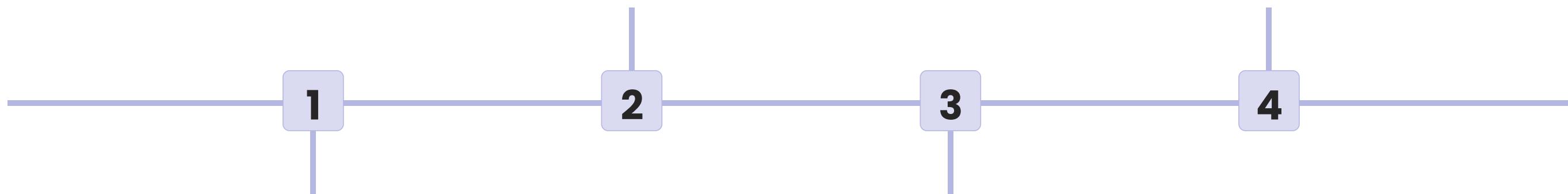
Factors Affecting AWS Costs

Storage

The size and type of storage you use impacts your costs, as well as how frequently you access or move data.

Network Bandwidth

Your network bandwidth usage can impact your costs, depending on how much traffic you generate.



Instance Type

The cost of your infrastructure depends on the type of instance you choose and the demand in the market.

Data Transfer

The amount of data transferred between regions and availability zones can significantly impact your bills.

Optimizing Infrastructure for Cost Savings



Optimization of Cloud Consumption

Right sizing



Right-Sizing Instances

Selecting the appropriate instance type based on your needs can save you up to 50% on costs.

Monitoring and Measuring Resource Utilization

Identifying underutilized resources can reduce your costs by up to 40%.



Using Cost Optimization Tools

Tools like AWS Cost Explorer and AWS Budgets can help you analyze and control your costs.

Cost Management Tools in AWS



AWS Cost Explorer

Analyze your costs, usage, and trends to identify areas for optimization.



AWS Budgets

Set custom cost and usage budgets to monitor and optimize your costs in real-time.



AWS Trusted Advisor

Get tailored cost optimization recommendations based on your usage patterns and requirements.

Total Cost of Ownership (TCO) Analysis

Direct Costs

Hardware, software, and personnel costs.

Indirect Costs

Environmental costs, providers, and governance.

Opportunity Costs

What you miss by not going cloud, like innovation and agility.

Risk Costs

Lack of agility, security, and compliance risks.

AWS Design Principles

Learn about the principles that underpin a successful AWS cloud architecture, from scalability to automation.



Scalability



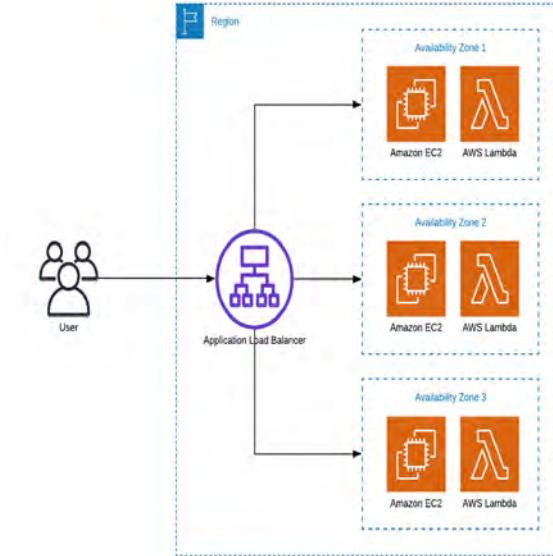
Start Small 🏠

Design for scalability by starting small and gradually increasing your capacity as your workload grows.



Cloud Resources 🌐

Take advantage of AWS's elastic resources to scale up and down automatically, reducing infrastructure costs.



Load Balancing 🚒

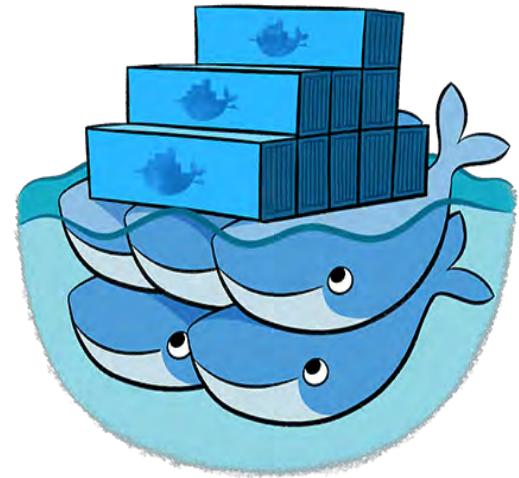
Route incoming traffic to multiple targets to improve your application's availability, scalability and redundancy.

Services, not Servers



Maintenance Challenges

Using servers might make it difficult to stay up-to-date with security patches, low-level system troubles and unpredictable growth.



Containerization

Containers are an excellent abstraction for packaging, scaling, and distributing applications, and to reduce infrastructure diversity.



Microservices

Decompose applications into microservices that you can develop, deploy, and scale independently, thus targeting different teams.

Security

Secure Access

Granting the minimum necessary privileges to your staff will reduce the risk of sensitive data exposure.

Regular Audits

Conduct regular security audits to verify that your infrastructure is up-to-date with the latest security patches.

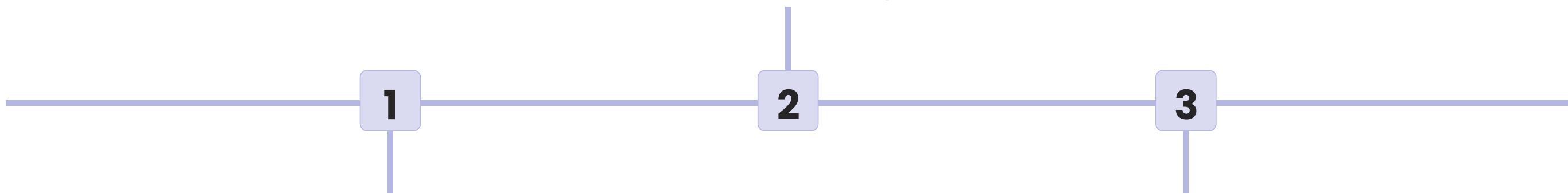
Encryption

Using regularly-rotated encryption keys will protect sensitive data from security breaches in transit and at rest.

Automation

DevSecOps

By shifting security left in the development process through infrastructure-as-code, and auditing of cloud resources will increase automation and enhance security.



Continuous Integration & Deployment

CI/CD operations that are automated continuously will reduce the probability of deployment errors, improve consistency throughout teams and providing quicker release cycles.

Orchestration

Build automated workflows that handle orchestration of cloud resource management tasks reducing downtime, scaling and auto-healing capabilities.



Creating Your AWS Account

Discover the benefits of creating an AWS account and how to navigate the process, as well as how to set up billing and support resources available to you.



Getting Started with AWS: Creating Your Account

Types of Accounts

Choose between Basic, Developer, and Enterprise accounts, each with different levels of support and access to features.

Step-by-Step Guide

We'll walk through the account creation process, from selecting your plan to configuring settings.

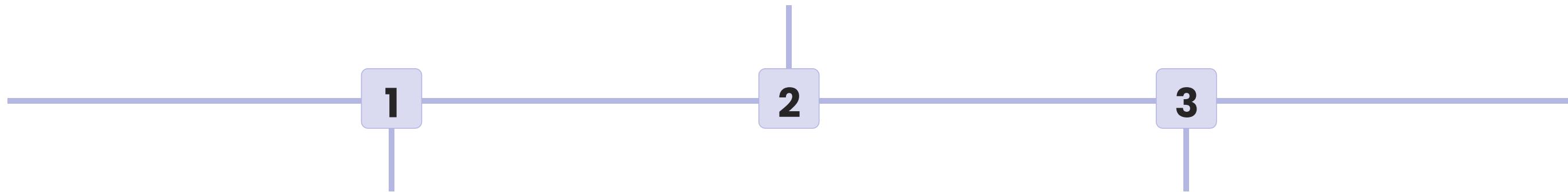
Settings and Configurations

Create policies, configure user access, and set up billing alerts and notifications to ensure a smooth experience.

Step-by-Step Account Creation Process

Adding IAM Users

Learn how to add IAM users to your AWS account, including how to create custom user groups and set user policies based on their roles.



Creating an Account

Discover the step-by-step process to create an AWS account, including how to choose your account type, provide billing information, and more.

Setting Up Billing and Payments

Discover how to set up billing and payments, as well as how to monitor your spending and estimate future costs.



Thank You