



Getting Started with AWS



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amazon
web services

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Introduction to AWS



Introduction to AWS

What is AWS?



- AWS stands for **Amazon Web Services**.
- Amazon Web Services (AWS) is the world's most comprehensive and broadly adopted **Cloud Platform**.

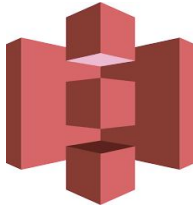
Introduction to AWS

What is AWS?

IAM



S3



EC2



Cloudformation



Elastic
Beanstalk

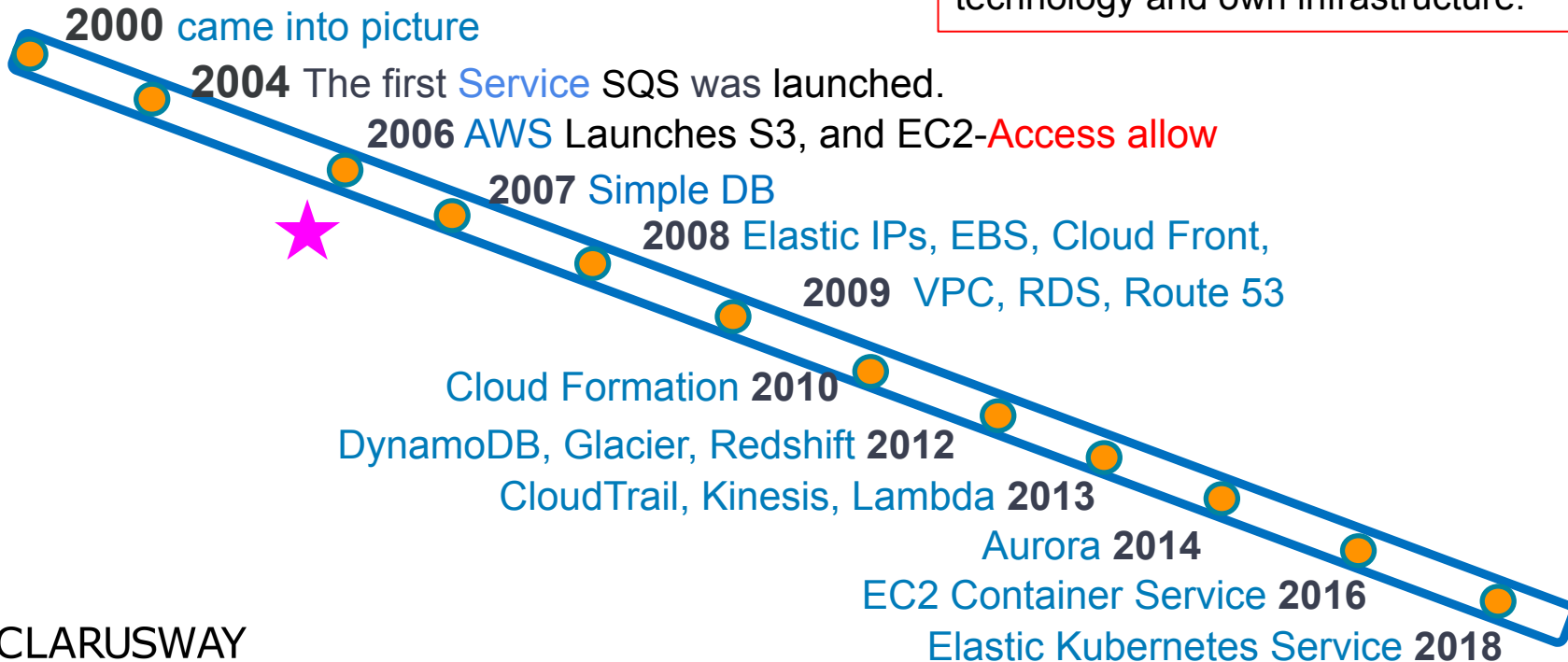


- AWS provides **on-demand** delivery of **technology services** via internet.
- It offers **over 200** fully featured services.

Introduction to AWS

History of AWS

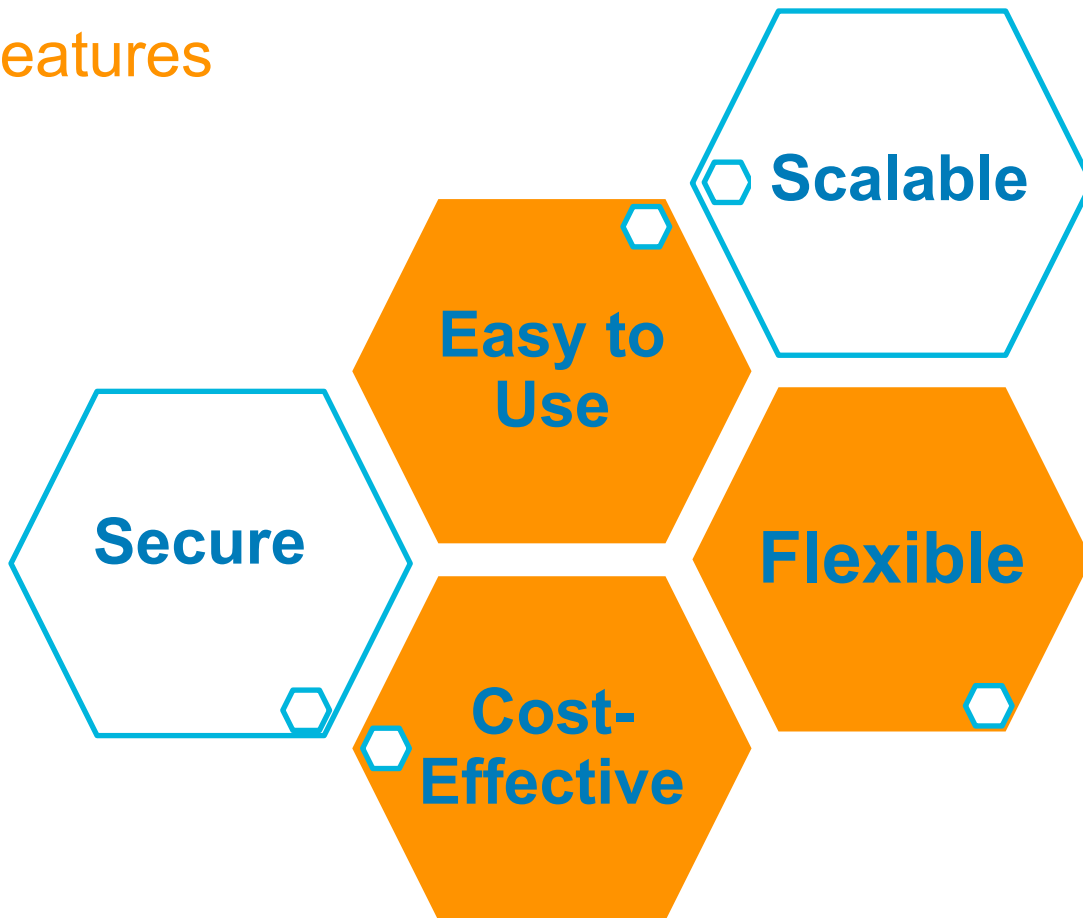
AWS launched its **first service in 2004**. Over the years, many new services were put into service. But in this diagram, **the real breaking point started in 2006**, when AWS allowed developer begin to access to Amazon's own back-end technology and own infrastructure.





Introduction to AWS

AWS Features



Introduction to AWS

AWS Market Share



AWS 32%
Azure 22%,
Google Cloud 11%,
Alibaba Cloud 4%
IBM 3%
Oracle 2%
Others 26%





Introduction to AWS

AWS Pros

- AWS offers more than **5 times the computation capacity** in use compared to the aggregate of the other 14 leading market providers.
- With hundreds of thousands of customers operating every possible use case on AWS in over **190 countries**.
- Thousands of independent software vendors such as **SAP, Oracle, Adobe, Microsoft**, etc.
- Amazon Web Services currently **supports over 7,500 government agencies and 14,000 educational institutions**.



Introduction to AWS

AWS Cons

- Complex service functionalities can be a challenge for beginners.
- Billing can be confusing.
- Common cloud computing cons.





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What does AWS offer?

What does AWS offer?

AWS Services



What does AWS offer?



www.e-commerce...

What does AWS offer?



www.e-commerce..



Publishing the website





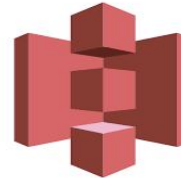
Web Server work in EC2 machine
(**nginx-apache httpd**)

- Auto Scaling
- Load Balancing

- Register domain name of the website
- Publishing on Internet
- Routing policies

- Best seller images,
- Inventory List etc.
- Data Log

- Customer info
- System Backups

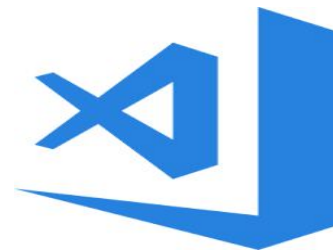




Problem,bug vs..



Developer



Change the code
Versioning CSS, HTML



GitHub

Git Commit



Hook
function



Build&
Deploy
Pipeline
Send-EC2 server



Publish in Public
Internet



Jenkins



AWS Well-Architected Framework 6 Pillars

Operational Excellence Pillar



Security Pillar



Reliability Pillar



Performance Efficiency Pillar



Cost Optimization Pillar



Sustainability Pillar



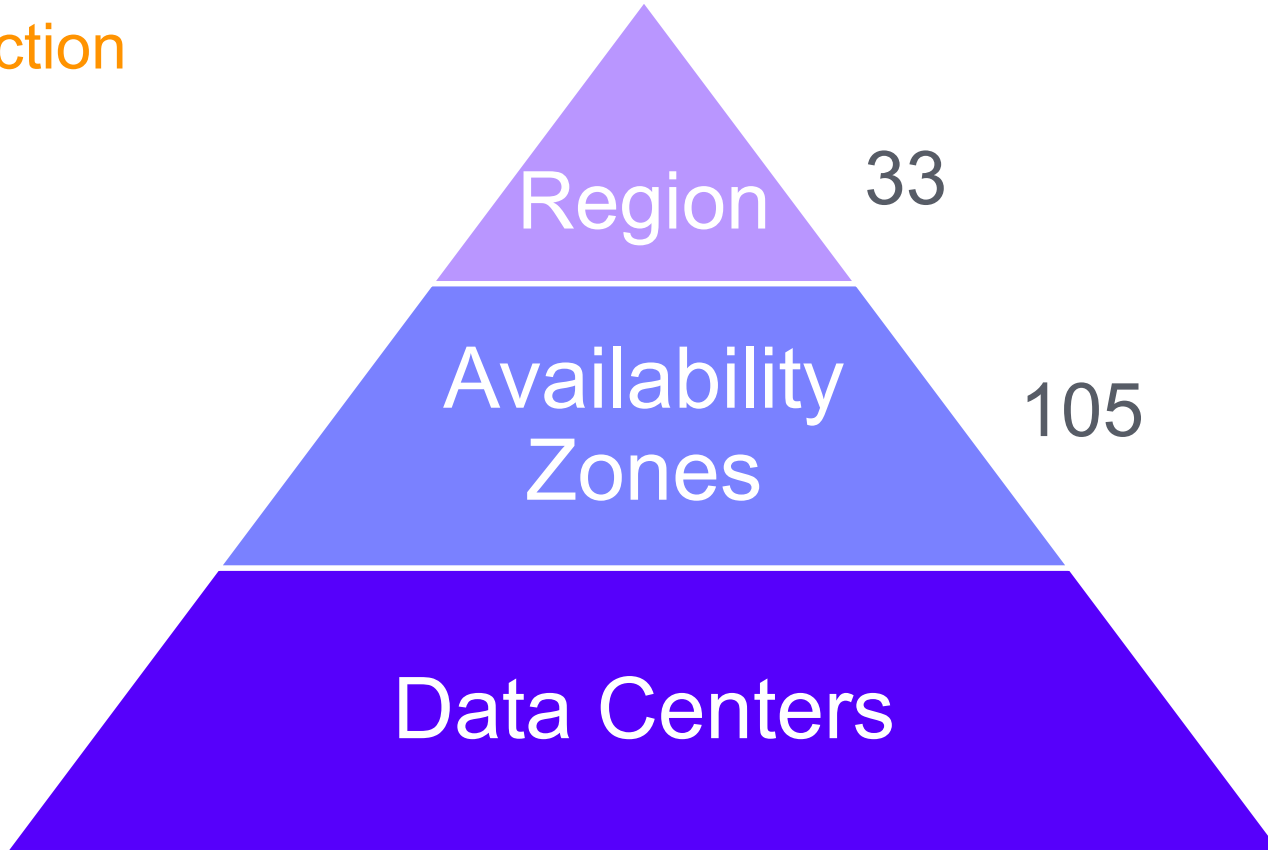


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AWS Infrastructure

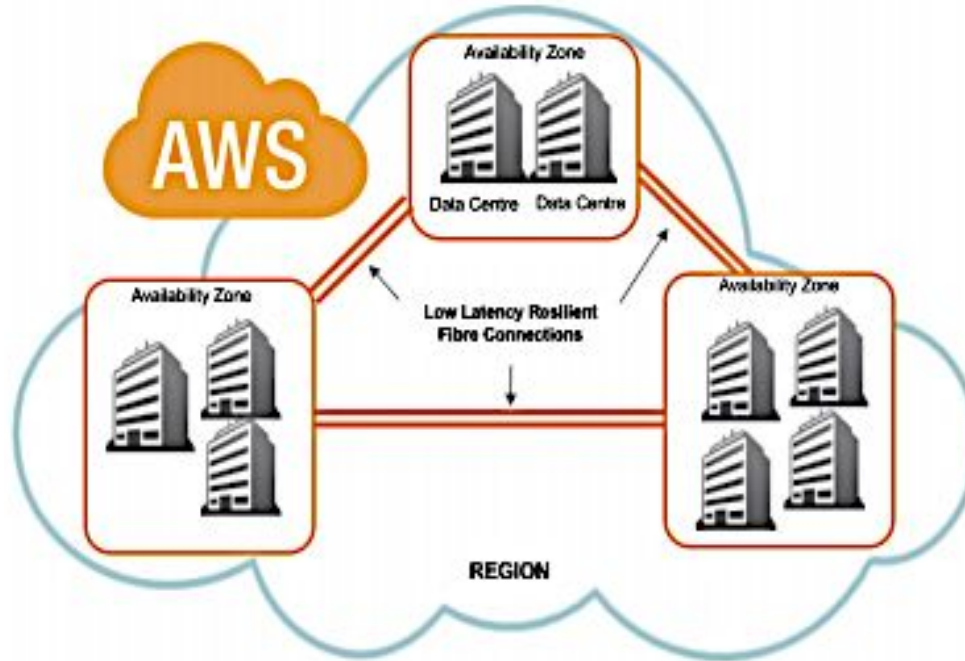
AWS Infrastructure

Introduction



AWS Infrastructure

Introduction



- Multiple Availability Zones in AWS Region
- Availability Zones consist of one or more discrete Data Centers

AWS Infrastructure

AWS Regions



31 Geographic Regions

N. Virginia is the region with the most service-support. In the other regions, not all services of AWS are in progress.



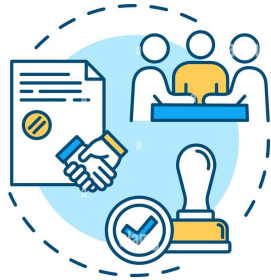
Current Regions



New Regions coming soon

AWS Infrastructure

Factors Impacting Region Selection



**Governance and
Legal Requirements**



Latency



Cost



**Service
availability**

AWS Infrastructure

AWS Availability Zones





AWS Infrastructure

AWS Availability Zones

- An Availability Zone is a facility where the data centers are located.
- There are currently 105 Availability Zones (as of Jan 2024).
- All AZ's in an AWS region are interconnected with metro fiber.
- All traffic between AZ's is encrypted.
- AZ's are physically separated by a meaningful distance, many kilometers, from any other AZ, although all are within 100 km (60 miles of each other).

AWS Infrastructure

AWS Data Centers



- The data center infrastructure consists of **physical or hardware-based tools and components**.
- AWS data centers are **secure** by design.



Northern Virginia Data Center

AWS Infrastructure

AWS Data Centers Layers



Infrastructure Layer



Data Layer



Perimeter Layer

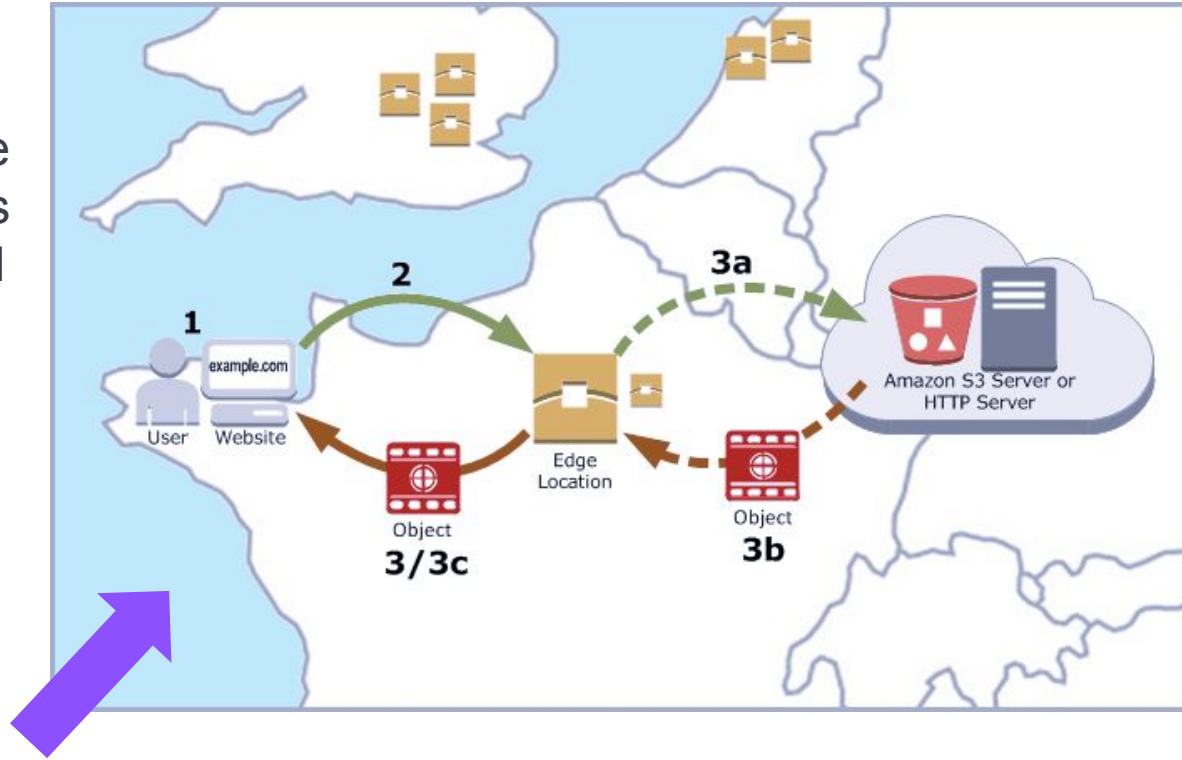


Environmental Layer

AWS Infrastructure

Edge Locations

- An edge location is where end-users access services located at AWS and used for **caching content**.
- **600+** Edge Locations



First Query : 1-2-3a-3b-3c-1

Second Query : 1-2-3-1

AWS Infrastructure

AWS Local Zones

NETFLIX



AWS Local Zones



Enable AWS Local Zones



Extend your Amazon VPC to the AWS Local Zone



Build and run your low latency applications in the AWS Local Zone

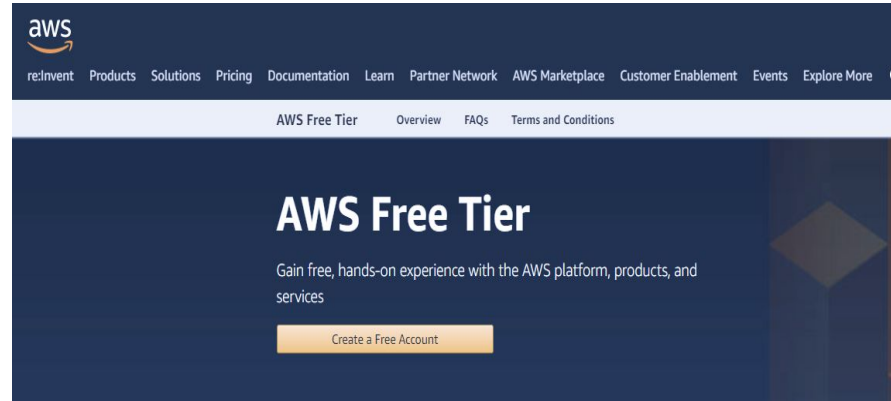


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AWS Free Tier

AWS Free Tier

What is AWS Free Tier?



- The AWS free tier is a account type that lets you gain free, hands-on experience with AWS products and services.
- The AWS free tier provides customers the ability to explore and try out AWS services free of charge up to specified limits for each service.

AWS Free Tier

Free Tier Offer Types



The Free Tier is comprised of three different types of offerings;

- Services with a **12-month free tier** allow customers to use the product for free up to specified limits for one year from the date the account was created.
- Services with an **always free** offer allow customers to use the product for free up to specified limits as long as they are an aws customer.
- Services with a **short term trial** are free to use for a specified period of time or up to a one-time limit depending on the service selected.

AWS Free Tier

Billing Policy



- You are recommended to set a **billing alarm** to stay within the limits.
- If your application use exceeds the free tier limits, you simply pay standard, **pay-as-you-go service rates**.
- AWS Free Tier is applied to your **monthly usage**. It will expire on the 1st day of each month and does not accumulate.





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Creating AWS Free Tier



Creating AWS Free Tier

- First, Enter the browser: <https://aws.amazon.com/free>
- Then click, "**Create Free Account**"

← → ↻ <https://aws.amazon.com/free> [Icons]

aws Contact Sales Support ▾ English ▾ My Account ▾ [Sign In to the Console](#)

Products Solutions Pricing Documentation Learn Partner Network AWS Marketplace Customer Enablement Events Explore More 🔍

AWS Free Tier Overview FAQs Terms and Conditions

AWS Free Tier

Gain free, hands-on experience with the AWS platform, products, and services

[Create a Free Account](#)



Creating AWS Free Tier

- On clicking on the **"Create Free Account"** button, the following screen appears that requires some fields to be filled by the user including **email address, password and account name.**

Create an AWS account

Email address

example@clarusway.com

Password

.....

Confirm password

.....

AWS account name ⓘ

awsdevopsteam

Continue

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

Creating AWS Free Tier

- Select "**Personal**" as an account Type and then fill your contact information.

Contact Information

All fields are required.

Account type ⓘ

☐ Professional ☒ **Personal**

Full name

awsdevopsteam

Phone number

1234567889

Country/Region

United States

Address

XXXXXXXXXX

XXXXXXXXXX

City

XXXXXXXXXX

State / Province or region

XXXXXXXXXX

Postal code

XXXXXXXXXX



Check here to indicate that you have read and agree to the terms of the [AWS Customer Agreement](#)

Create Account and Continue

Creating AWS Free Tier

- Fill your payment information.

Payment Information

We use your payment information to verify your identity and only for usage in excess of the [AWS Free Tier Limits](#). We will not charge you for usage below the AWS Free Tier Limits. For more information, see the [frequently asked questions](#).



When you submit your payment information, we will charge \$1 USD/EUR to your credit card as a verification charge to ensure your card is valid. The amount may show as pending in your credit card statement for 3-5 days until the verification is completed, at which time the charge will be removed. You may be redirected to your bank website to authorize the verification charge.

Credit/Debit card number

XXXXXXXXXX

Expiration date

xx

xxxx

Cardholder's name

Xxxxxx. XXXXX

Billing address

☒ Use my contact address

☐ Use a new address

Verify and Add



Creating AWS Free Tier

- Confirm your identity by entering **your phone** number and code displayed in the captcha.
- Choose "Contact me".
- If you chose to verify your account by SMS, choose "Send SMS" instead, like in the picture.
- Then enter the PIN you receive by text message or voice call, and then choose "Continue".

Confirm your identity

Before you can use your AWS account, you must verify your phone number. When you continue, the AWS automated system will contact you with a verification code.

Country or region code

United States (+1)

Cell Phone Number

(123) 4567899

Security check



6nncap

Send SMS



Creating AWS Free Tier

- After verification, select the support Plan. Choose the **"Basic Plan"** which is free.



Select a Support Plan

AWS offers a selection of support plans to meet your needs. Choose the support plan that best aligns with your AWS usage. [Learn more](#)

Basic Plan	Developer Plan	Business Plan
Free	From \$29/month	From \$100/month
<ul style="list-style-type: none">Included with all accounts24/7 self-service access to forums and resourcesBest practice checks to help improve security and performanceAccess to health status and notifications	<ul style="list-style-type: none">For early adoption, testing and developmentEmail access to AWS Support during business hours1 primary contact can open an unlimited number of support cases12-hour response time for nonproduction systems	<ul style="list-style-type: none">For production workloads & business-critical dependencies24/7 chat, phone, and email access to AWS SupportUnlimited contacts can open an unlimited number of support cases1-hour response time for production systems



THANKS!

Any questions?

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- ▶ @Guile - Instructor
- ▶ guile@clarusway.com

