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Your First Steps with AWS: A Beginner's Guide to Hosting a Website

1. What AWS Is and Its Key Benefits

Amazon Web Services (AWS) is the world's most comprehensive and widely adopted cloud platform, offering over 200 fully featured services from data centers globally. Whether you're a startup, enterprise, or individual developer, AWS provides on-demand computing power, storage, databases, and more — all accessible via the internet.

Key Benefits:

- Scalability: Instantly scale resources up or down based on demand.
- Cost-Efficiency: Pay only for what you use. No upfront costs.
- Reliability: Built on Amazon's proven global infrastructure.
- Security: Enterprise-grade security with compliance certifications.
- Innovation: Access to cutting-edge technologies like AI, machine learning, and serverless computing.

2. Signing Up for AWS for Free

Getting started with AWS is free — and generous.

AWS Free Tier Offers:

- Up to $200 in service credits for new users: $100 upon sign-up + up to $100 more as you explore key services.
- Free usage of selected services for up to 12 months (e.g., EC2, S3, RDS).
- Always Free tier for certain low-usage services indefinitely.
- No charges unless you upgrade to a paid plan or exceed free tier limits.

How to Sign Up:

1. Go to https://aws.amazon.com/
2. Click "Create an AWS Account"

3. Follow the steps (you'll need a phone number and credit card for identity verification — you won't be charged unless you exceed free tier limits).

3. Setting a Goal: Hosting a Website on AWS

Let's make your learning practical. By the end of this guide, you'll have:

Launched a virtual server (EC2)
Stored website files (S3)
Set up a database (RDS)
Connected and configured your server

This simple architecture will host a basic dynamic website — perfect for learning core AWS services.

4. Exploring the AWS Management Console

The AWS Management Console is your web-based control panel for all AWS services.

First Steps:

- After logging in, you'll see the Services menu — your gateway to all AWS offerings.
- Use the Search bar to quickly find services like "EC2", "S3", or "RDS".
- The Region Selector (top-right) lets you choose where your resources are hosted — pick one close to your users for better performance (e.g., "US East (N. Virginia)").

5. EC2 - Launching a Virtual Server

Amazon EC2 (Elastic Compute Cloud) lets you launch virtual servers in the cloud.

Launch Your First EC2 Instance:

1. In the Console, search for "EC2" and open it.
2. Click "Launch Instance".
3. Choose an Amazon Machine Image (AMI) — for beginners, pick "Amazon Linux 2" or "Ubuntu".

4. Choose an instance type — t2.micro is Free Tier eligible.
5. Create or select a key pair (this is your SSH private key — download and save it securely!).
6. Configure Security Group: Allow SSH (port 22) and HTTP (port 80).
7. Click “Launch Instance”.

6. S3 - Configuring File Storage

Amazon S3 (Simple Storage Service) is object storage for files like images, videos, and static website assets.

Create an S3 Bucket for Your Website Files:

1. Search for “S3” in the Console and open it.
2. Click “Create bucket”.
3. Give it a globally unique name (e.g., my-first-website-bucket-2025).
4. Keep default settings, but under “Block Public Access”, uncheck “Block all public access” if you plan to host a static site (and acknowledge the warning).
5. Click “Create bucket”.
6. Upload your index.html, CSS, or image files.
7. (Optional) Enable “Static Website Hosting” in bucket properties and set index.html as the default document.

7. RDS - Creating a Database Instance

Amazon RDS (Relational Database Service) makes it easy to set up, operate, and scale a relational database.

Launch a Free Tier-Compatible Database:

1. Search for “RDS” and open it.
2. Click “Create database”.
3. Choose a engine — MySQL or PostgreSQL are great for beginners.

4. Select “Free tier” template.
5. Set a master username and password (save these!).
6. Under “Connectivity”, make sure it’s set to “Public access: No” (for security — you’ll connect via your EC2 instance later).
7. Click “Create database” — it may take a few minutes to provision.

8. Connecting to an EC2 Instance and Running Commands

Connect via SSH:

ssh -i /path/to/your-key.pem ec2-user@your-ec2-public-ip

Install a Web Server (Apache):

sudo yum update -y # (Amazon Linux)

sudo yum install -y httpd # Install Apache

sudo systemctl start httpd # Start the server

sudo systemctl enable httpd # Start on boot

9. Tips for Cost Savings on AWS

Avoid surprise bills with these best practices:

Stay in Free Tier:

- Use only t2.micro or t3.micro EC2 instances.
- Keep S3 storage under 5GB and use < 20,000 GET requests/month.
- Use db.t3.micro for RDS (750 hrs/month free).

Set Billing Alerts:

- Go to Billing Dashboard > Budgets > Create budget.
- Set alerts at $1, $10, $25 to monitor spending.

Clean Up Resources:

- Delete EC2 instances, RDS databases, and S3 buckets when not in use.

- Stopped EC2 instances still incur charges for EBS storage — terminate if unused.

10. Continuing Your AWS Journey

You've hosted your first website — now what?

Explore AI & Machine Learning:

- Amazon Bedrock: Build generative AI apps without managing infrastructure.
- SageMaker: Fully managed service to build, train, and deploy ML models.
- Rekognition: Add image and video analysis to your apps.

Get AWS Certified:

Validate your skills and boost your career:

- AWS Certified Cloud Practitioner (Beginner)
- AWS Certified Solutions Architect – Associate (Next Step)
- Study via AWS Training, free digital courses, and practice exams.

Resources:

- AWS Free Tier
- AWS Documentation
- AWS Skill Builder