



Amazon EC2:

What:

Scalable compute capacity for running virtual servers in the cloud.

How:

Launch instances with desired AMIs, choose instance types, configure security groups, and manage scaling.

How Much:

Pay for compute hours or seconds (depending on billing model); options include on-demand, reserved, and spot instances.

EC2 HANDS ON:

Launch → Secure → Connect → Deploy Apache → Hello World


What you'll build

A tiny web server on an EC2 Ubuntu instance serving a “Hello World” page over HTTP.

At a glance

- EC2 launch (t2.micro / t3.micro)
- Security Group for SSH(22) & HTTP(80)
- SSH from terminal
- Install Apache
- Deploy simple index.html

Step 1 — Launch an EC2 Instance

1. Sign in to the AWS Management Console → EC2 → “Launch instance”.
2. Name: my-ec2
3. Select AMI: Ubuntu Server 22.04 LTS (free tier eligible).
4. Instance type: t2.micro or t3.micro (free tier eligible).
5. Key pair: Create new or reuse an existing .pem.
6. Network: Default VPC is fine for testing.
7. Security group: Allow SSH (22) from your IP and HTTP (80) from 0.0.0.0/0.
8. Storage: Default (8–10 GB gp3) is okay.
9. Launch instance 

Step 2 — Connect via SSH

From your terminal:

```
chmod 400 ~/keys/my-key.pem
ssh -i ~/keys/my-key.pem ubuntu@<PUBLIC_IP_ADDRESS>
```

If SSH fails, check your Security Group (port 22), and ensure the instance is running.

Step 3 — Update & Install Apache

```
sudo apt update -y
sudo apt install -y apache2
sudo systemctl start apache2
sudo systemctl enable apache2
systemctl status apache2
```

 Test in your browser: http://<PUBLIC_IP_ADDRESS> should show Apache’s default page.

Step 4 — Deploy Hello World

```
echo 'Hello World from EC2 ' | sudo tee /var/www/html/index.html
echo '<p>Deployed by <b>Your Name</b></p>' | sudo tee -a
/var/www/html/index.html
```

Pro tip: Use EC2 User Data to automate Apache installation & page setup.

Step 5 — Costs & Cleanup

When done testing:

1. Stop or terminate the instance.
2. Delete unattached Elastic IPs and unused volumes.

3. Remove Security Groups and Key Pairs.
4. Use AWS Cost Explorer to track usage.

⚠ Stopping an instance retains the EBS volume (storage costs). Terminate if no longer needed.

Troubleshooting

Issue	Fix
Port 22/80 timeouts	Check Security Group rules, network ACLs, and public IPv4.
Permission denied (publickey)	Ensure correct key, chmod 400, user = ubuntu.
Apache not serving	Check apache2 service & logs.
Page shows old content	Clear browser cache or reload.

The screenshot shows the AWS Management Console for the 'ap-south-1' region. The left sidebar contains navigation links for EC2, including Dashboard, AWS Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, AMIs, and AMI Catalog. The main content area displays the 'Instances (1/1)' page. At the top, there are buttons for 'Connect', 'Instance state', 'Actions', and 'Launch instances'. Below these is a search bar and a table of instances. The table has columns for Name, Instance ID, Instance state, Instance type, Status check, and Alarm status. One instance, 'my-ec2', is listed with ID 'i-0c2ff2d4df0115759' and is in a 'Running' state. Below the table, the details for the selected instance are shown, including tabs for 'Details', 'Status and alarms', 'Monitoring', 'Security', 'Networking', 'Storage', and 'Tags'. The 'Details' tab is active, showing the 'Instance summary' with fields for Instance ID, Public IPv4 address, and Private IPv4 addresses. The footer of the console shows the 'CloudShell' button, 'Feedback' link, and copyright information for Amazon Web Services, Inc. or its affiliates.

