

N Virginia; Logged in on personal AWS account: [REDACTED]

Selected **Launch Instance** on previous screen

The screenshot displays the AWS Management Console interface for launching an EC2 instance. The browser address bar shows the URL: `https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:`. The top navigation bar includes the AWS logo, a search bar, and the region dropdown menu set to "N. Virginia".

The main content area is titled "Launch an instance" and includes a brief introduction: "Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below."

The configuration steps are as follows:

- Name and tags:** A text input field contains "e.g. My Web Server", and there is a link to "Add additional tags".
- Application and OS Images (Amazon Machine Image):** A search bar prompts the user to "Search our full catalog including 1000s of application and OS images". Below the search bar are tabs for "Recents" and "Quick Start".
- Summary:** This section provides a overview of the configuration:
 - Number of instances:** Set to 1.
 - Software Image (AMI):** Amazon Linux 2023 AMI 2023.5.2...read more (ami-0ba9883b710b05ac6).
 - Virtual server type (instance type):** t2.micro.
 - Firewall (security group):** New security group.
 - Storage (volumes):** 1 volume(s) - 8 GiB.

A "Free tier" notification is displayed in the Summary section, stating: "In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance".

At the bottom of the Summary section, there are buttons for "Cancel", "Launch instance", and a link to "Review commands".

The footer of the console shows "CloudShell", "Feedback", and copyright information: "© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences".

Enter the following value in the “Name” field **httpserver1**

In the search bar, paste the following and press the Enter key. **ami-06d5e0de6baf595ca**

The screenshot shows the AWS Management Console interface for launching an EC2 instance. The browser tabs at the top include 'Option 1 - Cloud Computing', 'ccavstio1.pdf', and 'Launch an instance | EC2 | us-east-1'. The address bar shows the URL 'https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:'. The console header includes the AWS logo, 'Services', a search bar, and the region 'N. Virginia'.

The main content area is titled 'Launch an instance' with a sub-header 'Launch an instance info'. Below this, there's a section 'Name and tags info' with a text input field labeled 'Name' containing 'httpserver1'. To the right of this field is a link 'Add additional tags'. Below this is a section 'Application and OS Images (Amazon Machine Image) info' with a search bar containing 'ami-06d5e0de6baf595ca'. Below the search bar are tabs for 'Recents' and 'Quick Start'.

The right sidebar contains a 'Summary' section with the following details:

- Number of instances: 1
- Software Image (AMI): Amazon Linux 2023.5.2...read more (ami-0ba9883b710b05ac6)
- Virtual server type (instance type): t2.micro
- Firewall (security group): New security group
- Storage (volumes): 1 volume(s) - 8 GiB

A 'Free tier' notification is displayed, stating: 'Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance'. At the bottom of the sidebar are buttons for 'Cancel', 'Launch instance', and 'Review commands'.

The footer of the console shows 'CloudShell', 'Feedback', and copyright information: '© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences'.

AMI named **"TIO-AMI"**. Select AMI image under **Community AMIs**

The screenshot shows the AWS Management Console interface for selecting an Amazon Machine Image (AMI). The browser address bar indicates the URL: <https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:>. The page title is "Choose an Amazon Machine Image (AMI)".

An introductory text states: "An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs."

The "Selected AMI:" field shows "(ami-0ba9883b710b05ac6) (Quick Start AMIs)". Below this, there are four tabs: "Quick Start AMIs (0)", "My AMIs (0)", "AWS Marketplace AMIs (11042)", and "Community AMIs (1)". The "Community AMIs (1)" tab is selected and highlighted with a red box.

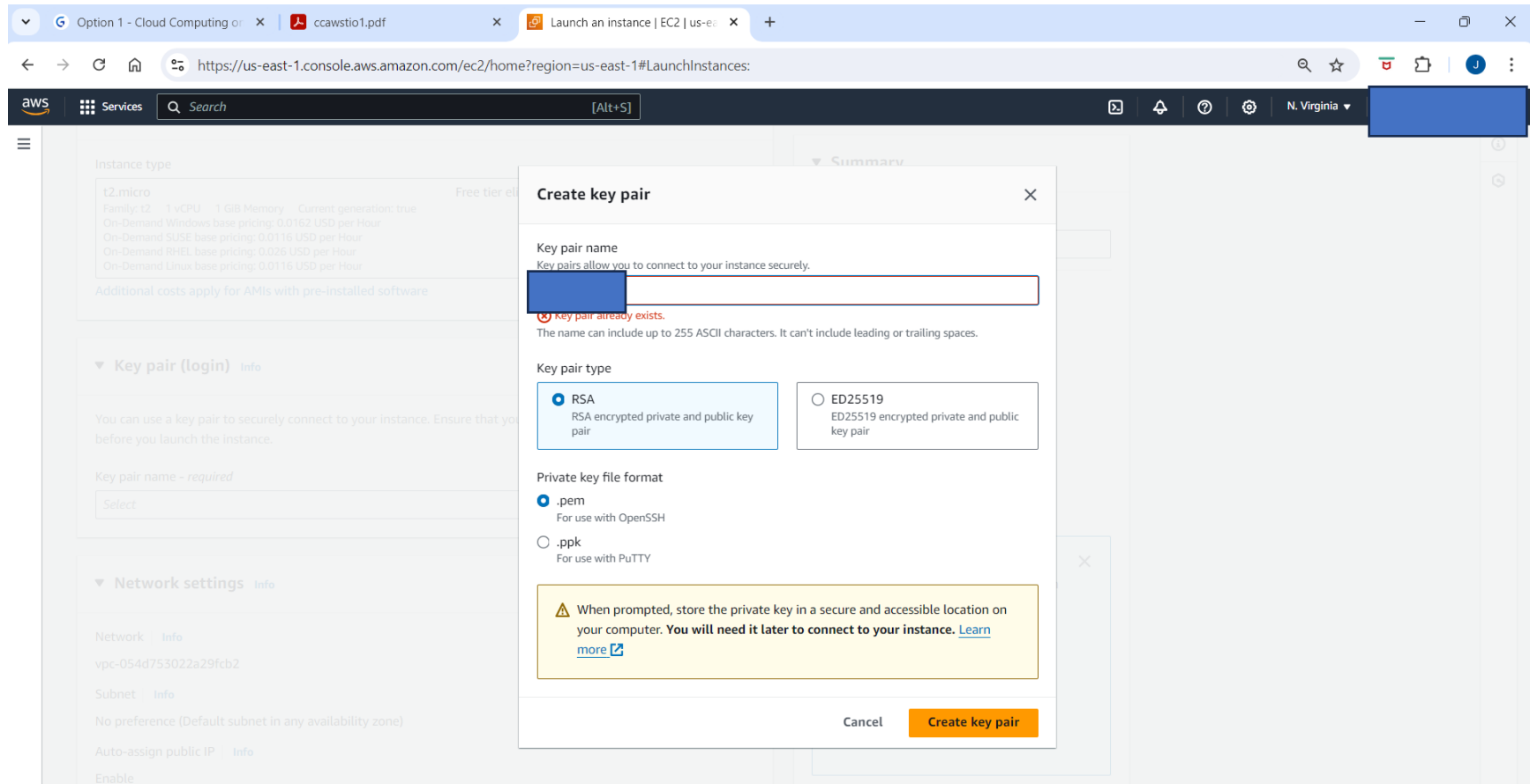
Under the "Community AMIs (1)" tab, there is a search bar containing "ami-06d5e0de6baf595ca". Below the search bar, there is a "Refine results" section on the left with filters for "Operating system" and "Linux/Unix". The main content area shows "ami-06d5e0de6baf595ca (1 filtered, 1 unfiltered)".

A blue information box titled "Community AMIs" states: "Community AMIs contain all AMIs that are public, therefore anyone can publish an AMI and it will show in this catalog. This catalog can also contain paid products. When using community AMIs it is best practice to ensure you know and trust the publisher before launching an AMI."

The AMI details for "TIO AMI" (ami-06d5e0de6baf595ca) are displayed. It is described as "AMI created for PGPCC TIO exercises". The details include: "Owner: Alias - Platform: Other Linux Architecture: x86_64 Owner: 894422427947 Publish date: 2023-11-27 Root device type: ebs Virtualization: hvm". The "Select" button is highlighted with a red box.

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Key Pair login section, Create key pair [redacted] 1. Key pair already exists. This is to show that I created it but forgot to take a snapshot.



Select the [redacted] 1 pair

Option 1 - Cloud Computing on x cawstio1.pdf x Launch an instance | EC2 | us-east-1 x +

https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:

Services Search [Alt+S]

On-Demand Windows base pricing: 0.0162 USD per Hour
On-Demand SUSE base pricing: 0.0116 USD per Hour
On-Demand RHEL base pricing: 0.026 USD per Hour
On-Demand Linux base pricing: 0.0116 USD per Hour
[Compare instance types](#)
[Additional costs apply for AMIs with pre-installed software](#)

▼ Key pair (login) Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair to connect to the instance.

Key pair name - required

Select

Q

Proceed without a key pair (Not recommended) Default value

[redacted]

Network Info pgcc-key1

[redacted]

No preference (Default subnet in any availability zone)

Auto-assign public IP Info

Enable

[Additional charges apply](#) when outside of [free tier allowance](#)

Firewall (security groups) Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

▼ Summary

Number of instances Info

1

Software Image (AMI)

TIO AMI
ami-06d5e0de6baf595ca

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

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Default VPC

Subnet **us-east-1a**; Security Group name: **tio1-sg**

Security group name: **tio1-sg**; Description: **Opens security groups for ssh and http**

The screenshot displays the AWS Management Console interface for launching an EC2 instance. The browser tabs include 'Option 1 - Cloud Computing', 'ccawstio1.pdf', and 'Launch an instance | EC2 | us-east-1'. The URL is <https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:>.

Network settings

- VPC - required**: (default) [Refresh]
- Subnet**: [Refresh] Availability Zone: us-east-1a [Refresh] [create new subnet](#)
- Auto-assign public IP**: Enable
- Additional charges apply** when outside of free tier allowance
- Firewall (security groups)**:
 - ☒ Create security group
 - ☐ Select existing security group
- Security group name - required**: [Redacted] This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters.
- Description - required**: Opens security groups for `ssh` and `http`
- Inbound Security Group Rules**: Security group rule 1 (TCP, 22, 0.0.0.0/0) [Remove]

Summary

- Number of instances**: 1
- Software Image (AMI)**: TIO AMI (ami-06d5e0de6baf595ca)
- Virtual server type (instance type)**: t2.micro
- Firewall (security group)**: New security group
- Storage (volumes)**: 1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

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SSH: **Already Added**

Selected **Add security group rule**

HTTP: Source type dropdown – **Anywhere**; Number of Instances: **1**

Option 1 - Cloud Computing | ccawstio1.pdf | Launch an instance | EC2 | us-east-1

https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:

aws Services Search [Alt+S] N. Virginia

Description - required [Info](#)
Opens security groups for ssh and http

Inbound Security Group Rules

▼ Security group rule 1 (TCP, 22, 0.0.0.0/0) [Remove](#)

Type [Info](#) Protocol [Info](#) Port range [Info](#)
ssh TCP 22

Source type [Info](#) Source [Info](#) Description - optional [Info](#)
Anywhere Add CIDR, prefix list or security e.g. SSH for admin desktop
0.0.0.0/0

▼ Security group rule 2 (TCP, 80, 0.0.0.0/0) [Remove](#)

Type [Info](#) Protocol [Info](#) Port range [Info](#)
HTTP TCP 80

Source type [Info](#) Source [Info](#) Description - optional [Info](#)
Anywhere Add CIDR, prefix list or security e.g. SSH for admin desktop
0.0.0.0/0

⚠ Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only. [X](#)

[Add security group rule](#)

Summary

Number of instances [Info](#)
1

Software Image (AMI)
TIO AMI
ami-06d5e0de6baf595ca

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet. [X](#)

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Select Launch Instance

The screenshot displays the AWS Management Console interface for launching a new EC2 instance. The browser address bar shows the URL: <https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:>. The console header includes the AWS logo, a search bar, and the region set to N. Virginia.

Configuration Options:

- Software Image (AMI):** TIO AMI (ami-06d5e0de6baf595ca)
- Virtual server type (instance type):** t2.micro
- Firewall (security group):** New security group
- Storage (volumes):** 1 volume(s) - 8 GiB

Advanced Configuration:

- Configure storage:** 1x 8 GiB gp2 Root volume (Not encrypted). Includes a note about the free tier eligible for up to 30 GB of EBS storage.
- Advanced details:** Includes a section for backup information and file systems.

Free tier notice: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Buttons: Cancel, **Launch instance** (highlighted with a red rectangle), Review commands.

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Launch Status confirmation page: **Checkbox to left of httpserver1; Instance Running, 2/2 checks passed**

Option 1 - Cloud Computing or x Instances | EC2 | us-east-1 x +

https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:v=3;\$case=tags:true%5C,client:false;\$regex=tags:false%5C,client:false

aws Services Search [Alt+S] N. Virginia

EC2 Dashboard x
EC2 Global View
Events
Console-to-Code Preview

Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations

Images
AMIs
AMI Catalog

Elastic Block Store
Volumes
Snapshots
Lifecycle Manager

Network & Security
Security Groups

CloudShell Feedback

Instances (1/1) Info

Find Instance by attribute or tag (case-sensitive) All states

<input checked="" type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
<input checked="" type="checkbox"/>	httpserver1		Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	

i-065c6ea0db12d033e (httpserver1)

Details Status and alarms Monitoring Security Networking Storage Tags

Instance summary Info

Instance ID	Public IPv4 address	Private IPv4 addresses
IP6 address	Instance state	Public IPv4 DNS
Hostname type	Private IP DNS name (IPv4 only)	Elastic IP addresses
Answer private resource DNS name	Instance type	AWS Compute Optimizer finding
Auto-assigned IP address	VPC ID	Opt-in to AWS Compute Optimizer for recommendations. Learn more
IAM Role	Subnet ID	Auto Scaling Group name

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Copy Public IP Address

Option 1 - Cloud Computing or x Instances | EC2 | us-east-1 x +

https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:v=3;\$case=tags:true%5C,client:false;\$regex=tags:false%5C,client:false

aws Services Search [Alt+S]

EC2 Dashboard X
EC2 Global View
Events
Console-to-Code Preview

Instances (1/1) Info

Find Instance by attribute or tag (case-sensitive) All states

<input checked="" type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
<input checked="" type="checkbox"/>	httpserver1	[REDACTED]	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	[REDACTED]

i-065c6ea0db12d033e (httpserver1)

Details Status and alarms Monitoring Security Networking Storage Tags

Instance summary Info

Instance ID [REDACTED] (httpserver1)

IPv6 address -

Hostname type [REDACTED] ec2.internal

Answer private resource DNS name -

Auto-assigned IP address [REDACTED] [Public IP]

IAM Role [REDACTED]

Instance state Running

Private IP DNS name (IPv4 only) [REDACTED] 2.internal

Instance type t2.micro

VPC ID [REDACTED]

Subnet ID [REDACTED]

Public IPv4 address copied

Private IPv4 addresses [REDACTED]

Public IPv4 DNS [REDACTED] compute-1.amazonaws.com | open address

Elastic IP addresses -

AWS Compute Optimizer finding
Opt-in to AWS Compute Optimizer for recommendations. | Learn more

Auto Scaling Group name [REDACTED]

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Open new browser tab

Paste public IP address, hit enter

Manual Instance numbered 19753



SSH into Instance. Open **Command Prompt**

Under [redacted], enter the following command based on where the **pem file is saved**. Also enter the **instance public IP address**:

`ssh -i [redacted].pem ec2-user@[redacted] ssh -i {location of pem file} ec2-user@instance id`

Are you sure you want to continue connecting (yes / no)? Enter **yes**

```
ec2-user@ip-172-31-42-57:~ x + v
Microsoft Windows [Version 10.0.22631.3958]
(c) Microsoft Corporation. All rights reserved.

C:\Users\josh>ssh -i [redacted].pem ec2-user@[redacted]
The authenticity of host '[redacted]' can't be established.
ED25519 key fingerprint is SHA256:sSqB4thh11H3Bw8/SeYQDd9QMNCcFBxcURF+75ldYPU.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '[redacted]' (ED25519) to the list of known hosts.
Last login: Mon Nov 27 10:30:20 2023 from 106.200.198.131

#_
~_  ####      Amazon Linux 2
~~ \_#####\
~~  \###|      AL2 End of Life is 2025-06-30.
~~   \#/  --->
~~    V~'  '--->
~~
~~  _./  _./  _./
~~ _./  _./  _./
~~ _/m/'

A newer version of Amazon Linux is available!

Amazon Linux 2023, GA and supported until 2028-03-15.
https://aws.amazon.com/linux/amazon-linux-2023/

46 package(s) needed for security, out of 66 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-42-57 ~]$
```

Deleting an Instance

Checkbox to left of **httpserver1**

Dropdown **Instance State**

Select **Terminate** instance

The screenshot shows the AWS Management Console for the EC2 service in the us-east-1 region. The 'Instances' page displays a table with one instance, 'httpserver1', which is in the 'Running' state. A red box highlights the checkbox to the left of the instance name. Another red box highlights the 'Instance state' dropdown menu, which is open, showing the 'Terminate instance' option. The instance details for 'i-065c6ea0db12d033e' are shown below the table.

Name	Instance ID	Instance state	Instance type	Status check
<input checked="" type="checkbox"/> httpserver1	i-065c6ea0db12d033e	Running	t2.micro	2/2 checks passed

i-065c6ea0db12d033e (httpserver1)

Instance summary

Instance ID	Public IPv4 address	Private IPv4 addresses
i-065c6ea0db12d033e (httpserver1)	192.168.1.100 open address	10.0.1.100

Instance details

Instance state	Private IP DNS name (IPv4 only)	Instance type
Running	ip-10-0-1-100.ec2.internal	t2.micro

Instance configuration

IP name	IP address	Public IP
ip-10-0-1-100	10.0.1.100	192.168.1.100

Instance metadata

Metadata key	Value
Hostname type	ip-10-0-1-100.ec2.internal
Private IP DNS name (IPv4 only)	ip-10-0-1-100.ec2.internal
Instance type	t2.micro
VPC ID	vpc-01234567
Subnet ID	subnet-01234567

Select Terminate

The screenshot shows the AWS Management Console interface. The left sidebar contains navigation links for EC2 Dashboard, EC2 Global View, Events, Console-to-Code, and a list of services including Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, AMIs, AMI Catalog, Elastic Block Store, Volumes, Snapshots, Lifecycle Manager, Network & Security, and Security Groups. The main content area displays the 'Instances (1/1)' page for the 'us-east-1' region. A table lists the instance 'httpserver1' with ID 'i-065c6ea0db12d033e', state 'Running', type 't2.micro', and public IP 'ec2-34-229-53-214.co'. A 'Terminate instance?' dialog box is open, showing a warning about EBS-backed instances and a table with the instance ID and its 'Termination protection' status, which is 'Disabled'. The dialog box includes a 'Cancel' button and a 'Terminate' button, which is highlighted with a red rectangle.

Option 1 - Cloud Computing or x Instances | EC2 | us-east-1 x 34.229.53.214 x +

https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:v=3,\$case=tags:true%5C,client:false,\$regex=tags:false%5C,client:false

aws Services Search [Alt+S] N. Virginia joshphillis@hotmail.com

EC2 Dashboard X

EC2 Global View

Events

Console-to-Code [Preview](#)

▼ Instances

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity Reservations

▼ Images

AMIs

AMI Catalog

▼ Elastic Block Store

Volumes

Snapshots

Lifecycle Manager

▼ Network & Security

Security Groups

Instances (1/1) Info

Find Instance by attribute or tag (case-sensitive) All states

<input checked="" type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
<input checked="" type="checkbox"/>	httpserver1	i-065c6ea0db12d033e	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	ec2-34-229-53-214.co

Details Status and alarms Monitor

▼ Instance summary Info

Instance ID

i-065c6ea0db12d033e (httpserver1)

IPv6 address

—

Hostname type

IP name: ip-172-31-42-57.ec2.internal

Answer private resource DNS name

—

Auto-assigned IP address

34.229.53.214 [Public IP]

Instance type

t2.micro

VPC ID

vpc-054d753022a29fcb2

Elastic IP addresses

—

AWS Compute Optimizer finding

Opt-in to AWS Compute Optimizer for recommendations. | [Learn more](#)

Auto Scaling Group name

—

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Terminate instance?

⚠ On an EBS-backed instance, the default action is for the root EBS volume to be deleted when the instance is terminated. Storage on any local drives will be lost.

Are you sure you want to terminate these instances?

Instance ID	Termination protection
i-065c6ea0db12d033e	Disabled

To confirm that you want to terminate the instances, choose the terminate button below. Instances with termination protection enabled will not be terminated. Terminating the instance cannot be undone.

Cancel **Terminate**

Instance State: Terminated

The screenshot displays the AWS Management Console interface for the 'Instances' page in the 'us-east-1' region. The browser's address bar shows the URL: `https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:v=3;$case=tags:true%5C,client:false;$regex=tags:false%5C,client:false`. The console header includes the AWS logo, a search bar, and navigation links for 'Services' and 'CloudShell'. The left-hand navigation pane lists various AWS services, with 'Instances' selected under the 'EC2' category. The main content area, titled 'Instances (1) Info', features a search bar and a table of instances. A single instance, 'httpserver1', is listed with an 'Instance ID' of [redacted] and an 'Instance state' of 'Terminated'. The 'Instance state' cell is highlighted with a red rectangle. Below the table, a modal window titled 'Select an instance' is visible. The footer of the console shows the copyright notice '© 2024, Amazon Web Services, Inc. or its affiliates.' and links for 'Privacy', 'Terms', and 'Cookie preferences'.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
httpserver1	[redacted]	Terminated	t2.micro	-	View alarms	us-east-1a	-

Unable to reach IP address **34.229.53.214**

