

## **AWS Cloud Basic**

1. [Read the terms of Using the AWS Free Tier and the ability to control their own costs .](#)
2. [Register with AWS \(first priority\) or alternatively, you can request access to courses in AWS Academy if you are currently student of certain University.](#)
5. [Register and pass free courses on AWS Skillbuilder. AWS Cloud Practitioner Essentials: Core Services, Cloud Concepts.](#)
6. [Register Pass free courses on Amazon qwiklabs.](#)
7. [Review Getting Started with Amazon EC2. Log into your AWS Account, launch, configure, connect and terminate your instance.](#)
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15. [Review the 10-minute example Batch upload files to the cloud to Amazon S3 using the AWS CLI. Create a user AWS IAM, configure CLI AWS and upload any files to S3.](#)
17. [Run a Serverless "Hello, World!" with AWS Lambda.](#)
18. [Create a static website on Amazon S3, publicly available using a custom domain registered with Route 53.](#)

1. Read the terms of Using the AWS Free Tier and the ability to control their own costs.

## Using the AWS Free Tier

When you create an AWS account, you're automatically signed up for the AWS Free Tier for 12 months. The AWS Free Tier allows you to try some AWS services free of charge within certain usage limits.

For the list of services that offer AWS Free Tier benefits and their Free Tier usage limits, see [AWS Free Tier](#).

For more information on how to avoid charges while you're eligible for the AWS Free Tier, see the following resources:

- [Tracking your AWS Free Tier usage \(p. 87\)](#)
- [Avoiding unexpected charges after the AWS Free Tier \(p. 86\)](#)

## Eligibility for the AWS Free Tier

Your AWS usage stays within the AWS Free Tier limits when all of these conditions are met:

- You're within the first 12 months of creating your AWS account.
- You use only AWS services that offer AWS Free Tier benefits.
- Your usage stays within the AWS Free Tier limits of those services.

If you use AWS services beyond one or more of these conditions, then that usage exceeds the Free Tier limits. You're charged at the standard AWS billing rates for usage that exceeds the Free Tier limits.

To learn more about the AWS Free Tier limits, see [AWS Free Tier](#).

**Note**

For AWS Organizations, the AWS Free Tier eligibility for all member accounts begins on the day that the management account is created. For more information, see the [AWS Organizations User Guide](#).

## Avoiding unexpected charges after the AWS Free Tier

Your eligibility for the AWS Free Tier expires 12 months after you first create your account. You can't extend your Free Tier eligibility after this time.

**Note**

You can continue to use Always Free offers, even after your Free Tier eligibility expires. To learn more about available Always Free offers, see [AWS Free Tier](#).

As the expiration date of your AWS Free Tier eligibility approaches, we recommend that you terminate any resources you no longer need. After your eligibility expires, you're charged at the standard AWS billing rates for usage.

Even if you aren't regularly logging in to your account, you might have active resources running. Use the following procedure to identify your account's active resources.

### To identify your account's active resources

1. Sign in to the AWS Management Console and open the Billing console at <https://console.aws.amazon.com/billing/>.
2. Next to **Details**, choose **Expand All**.
3. Review the list under **AWS Service Charges**. This list shows you the services with active resources by AWS Region.

Note the services and AWS Regions with resources that you no longer need. For instructions on how to terminate those resources, see the documentation for that service.

You might decide to close your AWS account. To avoid generating future charges, we recommend that you retrieve the content you want to keep and terminate any remaining resources before you close your account. Closing your account might not automatically terminate all your active resources and you might continue to incur charges. Make sure to review your content and resources across different AWS Regions. For more information and important considerations, see [close your account \(p. 21\)](#).

2. Register with AWS (first priority) or alternatively, you can request access to courses in AWS Academy if you are currently a student of certain University

The screenshot shows the AWS Account Settings page. At the top, there's a navigation bar with links like 'Console Home', 'AWS Budgets', 'IAM', 'CloudWatch', 'RDS', 'EC2', 'S3', 'Lambda', 'CloudShell', 'VPC', and 'CloudFormation'. The main content area has a left sidebar with links for 'Home', 'Billing', 'Bills', 'Payments', 'Credits', 'Purchase orders', 'Cost & Usage Reports', 'Cost Categories', 'Cost allocation tags', 'Free Tier', 'Billing Conductor', 'Cost Management', 'Cost Explorer', 'Budgets', and 'Budgets Reports'. The right side displays 'Account Settings' with fields for 'Seller' (Amazon Web Services EMEA SARL), 'Account Name' (Yevhen Yakymov), and 'Password' (\*\*\*\*\*). Below this is a section for 'Contact Information' with fields for 'Full Name' (Yevhen Yakymov), 'Address' (City: Bucha, State: Kyiv region), 'Postal Code', 'Country' (UA), 'Phone Number', 'Company Name', and 'Website URL'. A note states: 'Please note that updating your contact information on this page will not update the information displayed on your PDF Invoices. If you wish to update the billing address information associated with your invoice, please edit it through the Payment Methods page, located [here](#)'.

3. Find the hands-on tutorials and AWS Well-Architected Labs for your AWS needs. Explore list of step-by-step tutorials for deferent category. Use, repeat as many as you can and have fun))

4. Register and pass courses on AWS Educate. Filter by checking Topic Cloud Computing and Foundational Level. Feel free to pass more.

5. Register and pass free courses on [AWS Skillbuilder](#). AWS Cloud Practitioner Essentials: Core Services, AWS Cloud Practitioner Essentials: Cloud Concepts. Try AWS Cloud Quest: Cloud Practitioner.

The screenshot shows the AWS Learner dashboard under the "My activities" tab. On the left, a sidebar menu includes "Statistics", "Additional Info", **Courses**, and "Learning plans". The main area displays a profile picture of a man with a beard, identified as Yevhen Yakymov, a User level member with the email yakymov1yevhen@gmail.com. Below the profile are four key metrics: Subscription date (11/5/2022 at 9:20:14 pm), Last Access Date (11/6/2022 at 5:33:10 pm), Total time (0h 10m), and Active courses (1).

The screenshot shows the "Courses" section of the AWS Learner dashboard. The sidebar menu now highlights "Courses". The main table lists one course: TCAA-DIG-100-AWS Cloud Practitioner Essentials, which the user is currently "IN PROGRESS". The table includes columns for Course Code, Course Name, User Status, Enrolled, Expiration Date, Course Completion, Credits (CEUs), Total Time, and Score. A total count of 1 course is shown at the bottom.

COURSE CODE	COURSE NAME	USER STATUS	ENROLLED	EXPIRATION DATE	COURSE COMPLETION	CREDITS (CEUS)	TOTAL TIME	SCORE
TCAA-DIG-100-AWS Cloud CECPEB-0101- EN-US	AWS Cloud Practitioner Essentials	IN PROGRESS		11/6/2022			0h 10m	0.00

## 6. Pass free courses on [Amazon quiklabs](#)

The screenshot shows the 'My favorites' section of the Amazon QuikLabs website. The page has a header with the AWS logo, navigation links for Home, Catalog, Profile, and Subscriptions, and user profile icons. Below the header, the title 'My favorites' is displayed. Seven course cards are listed in a grid:

- Introduction to Amazon API Gateway
- Introduction to Amazon Elastic Block Store (Amazon EBS)
- Introduction to AWS Identity and Access Management (IAM)
- Introduction to Amazon CloudFront
- Introduction to Amazon Simple Storage Service (S3)
- Introduction to AWS Key Management Service
- Introduction to AWS Lambda

Each course card features a small 'Lab' button in the top-left corner.

7. Review [Getting Started with Amazon EC2](#). Log Into Your AWS Account, Launch, Configure, Connect and Terminate Your Instance. Do not use Amazon Lightsail. It is recommended to use the t2 or t3.micro instance and the CentOS operating system.

## Configure and launch Instanse

The screenshot shows the AWS EC2 "Launch an instance" wizard. The first step, "Name and tags", has a "Name" field containing "My Amazon Linux 2 Server". The second step, "Application and OS Images (Amazon Machine Image)", displays an AMI named "amzn2-ami-kernel-5.10-hvm-2.0.20221004.0-x86\_64-gp2 ami-09d3b3274b6c5d4aa". This AMI is marked as "Free tier eligible" and "Verified provider". Below the AMI details, a table provides information about the catalog entry:

Catalog	Published	Architecture	Virtualization	Root device type	ENI Enabled
Quickstart AMIs	2022-10-13T21:14:51.00Z	x86_64	hvm	ebs	Yes

## ▼ Instance type [Info](#)

### Instance type

t2.micro

Family: t2 1 vCPU 1 GiB Memory  
On-Demand Linux pricing: 0.0116 USD per Hour  
On-Demand Windows pricing: 0.0162 USD per Hour

Free tier eligible

[Compare instance types](#)

## ▼ 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 before you launch the instance.

### Key pair name - required

yevhen-n.nirginia

[Create new key pair](#)

## ▼ Network settings [Info](#)

[Edit](#)

### Network [Info](#)

vpc-0432784950f8f█████ | default

### Subnet [Info](#)

No preference (Default subnet in any availability zone)

### Auto-assign public IP [Info](#)

Enable

### 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.

Create security group

Select existing security group

### Security groups [Info](#)

Select security groups

[Compare security group rules](#)

default sg-08fce3c61a4c2█████ X  
VPC: vpc-0432784950f8f█████

## ▼ Configure storage [Info](#)

[Advanced](#)

1x

8

GiB

gp2

▼

Root volume (Not encrypted)

i Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage

X

[Add new volume](#)

0 x File systems

[Edit](#)

Instances (1/2) <a href="#">Info</a>		Instance state ▾	Actions ▾	<a href="#">Launch instances</a>	▼
<input type="text"/> Find instance by attribute or tag (case-sensitive)					
■	Name	Instance ID	Instance state	▼	▼
<input type="checkbox"/>	MongoDB-server	i-05460c4f307056d7b	Stopped	<a href="#">+ Q</a>	<a href="#">Q</a>
<input checked="" type="checkbox"/>	My Amazon Linux 2 Server	i-052dc26e6a662ab06	Running	<a href="#">+ Q</a>	<a href="#">Q</a>

## Instance: i-052dc26e6a662ab06 (My Amazon Linux 2 Server) [⚙️](#)

[Details](#) [Security](#) [Networking](#) [Storage](#) [Status checks](#) [Monitoring](#) [Tags](#)

### ▼ Instance summary [Info](#)

Instance ID <a href="#">i-052dc26e6a662ab06 (My Amazon Linux 2 Server)</a>	Public IPv4 address <a href="#">3.92.████████   open address ↗</a>	Private IPv4 addresses <a href="#">172.31.82.163</a>
IPv6 address —	Instance state <a href="#">Running</a>	Public IPv4 DNS <a href="#">ec2-3-92-████.compute-1.amazonaws.com   open address ↗</a>

## Connecting to Instance through SSH connection

```

  _|_(_|-/_ )   Amazon Linux 2 AMI
  __|_\_|__|_
https://aws.amazon.com/amazon-linux-2/
13 package(s) needed for security, out of 16 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-82-163 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-82-163 ~]$ whoami
ec2-user
[ec2-user@ip-172-31-82-163 ~]$ hostname -i
172.31.82.163
[ec2-user@ip-172-31-82-163 ~]$ █

```

## 8. Create a snapshot of your instance to keep as a backup.

The screenshot shows the AWS EC2 Instances page. A context menu is open over an instance named "My Amazon Linux 2 Server". The menu is divided into sections: "Actions" (highlighted with a red box), "Launch instances", "Connect", "View details", "Manage instance state", "Instance settings", "Networking", "Security", "Image and templates" (highlighted with a green box), "Monitor and troubleshoot", and "Tags". The "Image and templates" section contains options like "Create image" (highlighted with a red box) and "Create template from instance".

The screenshot shows the AWS EBS Volumes page. A context menu is open over a volume named "vol-0e79a3a514cf4084". The menu includes "Actions" (highlighted with a red box), "Create volume", "Modify volume", "Create snapshot" (highlighted with a green box), "Create snapshot lifecycle policy", "Delete volume", "Attach volume", "Detach volume", "Force detach volume", "Manage auto-enabled I/O", and "Manage tags". Below the menu, the "Details" tab of the volume's configuration page is visible, showing information such as Volume ID, Size, Type, and Volume status.

EC2 > Volumes > vol-0e79a3a514cfe4084 > Create snapshot

### Create snapshot Info

Create a point-in-time snapshot to back up the data on an Amazon EBS volume to Amazon S3.

#### Details

Volume ID  
vol-0e79a3a514cfe4084

Description 1  
Add a description for your snapshot  
CopyOfDisk-1  
255 characters maximum.

Encryption Info  
Not encrypted

#### Tags Info

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

No tags associated with the resource.

Add tag  
You can add 50 more tags.

Cancel
Create snapshot 2

**9. Create and attach a Disk\_D (EBS) to your instance to add more storage space.  
Create and save some file on Disk\_D**

**Create and attach Disk\_D**

New EC2 Experience Tell us what you think X

- EC2 Dashboard
- EC2 Global View
- Events
- Tags
- Limits
- Instances**
  - Instances New
  - Instance Types
  - Launch Templates
  - Spot Requests
  - Savings Plans
  - Reserved Instances New
  - Dedicated Hosts
  - Scheduled Instances
  - Capacity Reservations
- Images**
  - AMIs New
  - AMI Catalog
- Elastic Block Store**
  - Volumes** 1

**Volumes (2)**

C	Actions ▾	Create volume			
<input type="button" value="Search"/>		2 < 1 > ⌂			
Name	Volume ID	Type	Size	IOPS	T
-	vol-0cfba4f2430bf089e	gp2	8 GiB	100	-
-	vol-0e79a3a514cfe4084	gp2	8 GiB	100	-

Select a volume above

## Create volume Info

Create an Amazon EBS volume to attach to any EC2 instance in the same Availability Zone.

### Volume settings

#### Volume type Info

General Purpose SSD (gp2)

#### Size (GiB) Info

5

Min: 1 GiB, Max: 16384 GiB. The value must be an integer.

#### IOPS Info

100 / 3000

Baseline of 3 IOPS per GiB with a minimum of 100 IOPS, burstable to 3000 IOPS.

#### Throughput (MiB/s) Info

Not applicable

#### Availability Zone Info

us-east-1a

#### Snapshot ID - optional Info

Don't create volume from a snapshot



#### Encryption Info

Use Amazon EBS encryption as an encryption solution for your EBS resources associated with your EC2 instances.

Encrypt this volume

#### Tags - optional Info

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key

1

Name

Value - optional

2

Disk\_D

Remove

Add tag

You can add 49 more tags.

3

Cancel

Create volume

New EC2 Experience X

- EC2 Dashboard
- EC2 Global View
- Events
- Tags
- Limits

**Instances**

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

**Images**

- AMIs New
- AMI Catalog

**Elastic Block Store**

- Volumes** 1

### Volumes (1/3)

Name	Volume ID	Type
<input checked="" type="checkbox"/> Disk_D	vol-089009a9262d599e7	gp2
<input type="checkbox"/>	vol-0cfba4f2430bf089e	gp2
<input type="checkbox"/>	vol-0e79a3a514cfe4084	gp2

Actions ▾ Create volume

2

Actions ▾ Modify volume  
Create snapshot  
Create snapshot lifecycle policy  
Delete volume  
Attach volume Detach volume  
Force detach volume  
Manage auto-enabled I/O  
Manage tags

3

Volume ID: vol-089009a9262d599e7 (Disk\_D)

Details Status checks Monitoring Tags

**Status checks**

Volume status	Availability Zone
<span style="color: green;">OK</span> Okay	us-east-1a
I/O status	I/O performance
<span style="color: green;">OK</span> Enabled	Not applicable
I/O status updated on	I/O performance updated on
Sun Nov 06 2022 19:17:01 GMT+0200 (за східноєвропейським стандартним часом)	-
Description	

EC2 > Volumes > vol-0f9b110d09d3c7c88 > Attach volume

## Attach volume Info

Attach a volume to an instance to use it as you would a regular physical hard disk drive.

### Basic details

Volume ID

vol-0f9b110d09d3c7c88

Availability Zone

us-east-1d

Instance Info

i-052dc26e6a662ab06

1

Only instances in the same Availability Zone as the selected volume are displayed.

Device name Info

/dev/sdf

2

Recommended device names for Linux: /dev/sda1 for root volume. /dev/sd[f-p] for data volumes.

i Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.

3

Cancel

Attach volume

The screenshot shows the AWS EC2 Instances page. On the left, there's a sidebar with navigation links like EC2 Dashboard, EC2 Global View, Events, Tags, Limits, Instances (with 'Instances New' highlighted), Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances (New), Dedicated Hosts, Scheduled Instances, Capacity Reservations, Images (AMIs New, AMI Catalog), and Elastic Block Store.

The main area displays 'Instances (1/2) Info'. It lists two instances: 'MongoDB-server' (Stopped) and 'My Amazon Linux 2 Server' (Running). The second instance is selected and highlighted with a green circle around its row.

Below the instance list, it says 'Instance: i-052dc26e6a662ab06 (My Amazon Linux 2 Server)'. The 'Storage' tab is active, indicated by a green circle. The 'Root device details' section shows 'Root device name: /dev/xvda' and 'Root device type: EBS'. The 'Block devices' section lists two volumes: 'vol-0cfbaf4f2430bf089e' (attached, size 8 GiB) and 'vol-0f9b110d09d3c7c88' (attached, size 5 GiB).

## Formatting and Mounting an attached volume

```
[ec2-user@ip-172-31-82-163 ~]$ lsblk
NAME   MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
xvda   202:0    0 8G  0 disk
└─xvda1 202:1    0 8G  0 part /
xvdf   202:80   0 5G  0 disk

[ec2-user@ip-172-31-82-163 ~]$ sudo mkfs -t xfs /dev/xvdf
meta-data=/dev/xvdf              isize=512   agcount=4, agsize=327680 blks
                                =         sectsz=512  attr=2, projid32bit=1
                                =         crc=1    finobt=1, sparse=0
data     =         bsize=4096   blocks=1310720, imaxpct=25
                                =         sunit=0   swidth=0 blks
naming   =version 2             bsize=4096   ascii-ci=0 ftype=1
log      =internal log          bsize=4096   blocks=2560, version=2
                                =         sectsz=512  sunite=0 blks, lazy-count=1
realtime =none                  extsz=4096   blocks=0, rtextents=0

[ec2-user@ip-172-31-82-163 ~]$ sudo mkdir /Disk_D
[ec2-user@ip-172-31-82-163 ~]$ sudo mount /dev/xvdf /Disk_D
[ec2-user@ip-172-31-82-163 ~]$ df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        474M    0  474M  0% /dev
tmpfs          483M    0  483M  0% /dev/shm
tmpfs          483M  500K  482M  1% /run
tmpfs          483M    0  483M  0% /sys/fs/cgroup
/dev/xvda1      8.0G  1.6G  6.5G 20% /
tmpfs          97M    0   97M  0% /run/user/0
tmpfs          97M    0   97M  0% /run/user/1000
/dev/xvdf       5.0G  38M  5.0G  1% /Disk_D
```

## Creating and save some file on Disk\_D

```
[ec2-user@ip-172-31-82-163 Disk_D]$ ls -lh
total 0
[ec2-user@ip-172-31-82-163 Disk_D]$ vim file1.txt
[ec2-user@ip-172-31-82-163 Disk_D]$ sudo vim file1.txt
[ec2-user@ip-172-31-82-163 Disk_D]$ ls -lh
total 4.0K
-rw-r--r-- 1 root root 773 Nov  6 18:03 file1.txt
[ec2-user@ip-172-31-82-163 Disk_D]$ cat file1.txt
cachedir=/var/cache/yum/$basearch/$releasever
keepcache=0
debuglevel=2
logfile=/var/log/yum.log
exactarch=1
obsoletes=1
gpgcheck=1
plugins=1
installonly_limit=3
distroverpkg=system-release
timeout=5
retries=7

# This is the default, if you make this bigger yum won't see if the metadata
# is newer on the remote and so you'll "gain" the bandwidth of not having to
# download the new metadata and "pay" for it by yum not having correct
# information.
# It is esp. important, to have correct metadata, for distributions like
# Fedora which don't keep old packages around. If you don't like this checking
# interrupting your command line usage, it's much better to have something
# manually check the metadata once an hour (yum-updatesd will do this).
# metadata_expire=90m
[ec2-user@ip-172-31-82-163 Disk_D]$ sudo vim file2.txt
[ec2-user@ip-172-31-82-163 Disk_D]$ ls -lh
total 8.0K
-rw-r--r-- 1 root root 773 Nov  6 18:03 file1.txt
-rw-r--r-- 1 root root 117 Nov  6 18:05 file2.txt
[ec2-user@ip-172-31-82-163 Disk_D]$ cat file2.txt
9.Create and attach a Disk_D (EBS) to your instance to add more storage space.
  Create and save some file on Disk_D
[ec2-user@ip-172-31-82-163 Disk_D]$ █
```

## 10. Launch the second instance from backup.

EC2 > Instances > Launch an instance

### Launch an instance Info

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.

**Name and tags Info**

Name  
Amazon Linux 2 WebServer-COPYfromAIM Add additional tags

**▼ Application and OS Images (Amazon Machine Image) Info**

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

**Search our full catalog including 1000s of application and OS images**

Recents | **My AMIs** | Quick Start

Owned by me  Shared with me

**Browse more AMIs**  
Including AMIs from AWS, Marketplace and the Community

**Amazon Machine Image (AMI)**

**AmazonLinux-2\_WebServer\_COPY**  
ami-05ef437f1dde70e8f  
2022-11-06T20:19:13.000Z Virtualization: hvm ENA enabled: true Root device type: ebs

Description  
AmazonLinux-2\_WebServer\_COPY

**Instances (1/3) Info**

New EC2 Experience Tell us what you think X

EC2 Dashboard  
EC2 Global View  
Events  
Tags  
Limits

Instances **Instances New**

Instance Types  
Launch Templates  
Spot Requests  
Savings Plans

Find instance by attribute or tag (case-sensitive)

Name	Instance ID	Instance state
MongoDB-server	i-05460c4f307056d7b	Stopped
My Amazon Linux 2 Server	i-052dc26e6a662ab06	Running
<b>Amazon Linux 2 WebServer-COPYfromAIM</b>	i-0ba6391a97ec8e721	Running

Instance: i-0ba6391a97ec8e721 (Amazon Linux 2 WebServer-COPYfromAIM) Details

Details Security Networking Storage Status checks Monitoring Tags

## 11. Detach Disk\_D from the 1st instance and attach disk\_D to the new instance.

### Detaching volume Disk\_D from the 1<sup>st</sup> instance

The screenshot shows the AWS Volumes page. On the left sidebar, under 'Elastic Block Store', 'Volumes' is selected and highlighted with a green box and the number '1'. In the main content area, a table lists three volumes. The first volume, 'Disk\_D' with Volume ID 'vol-0f9b110d09d3c7c88', has a checkmark next to it. To its right, in the 'Actions' column, a dropdown menu is open, also highlighted with a green box and the number '2'. The 'Detach volume' option in this menu is highlighted with a red box and the number '3'.

### Attaching volume Disk\_D to the new instance during the launch

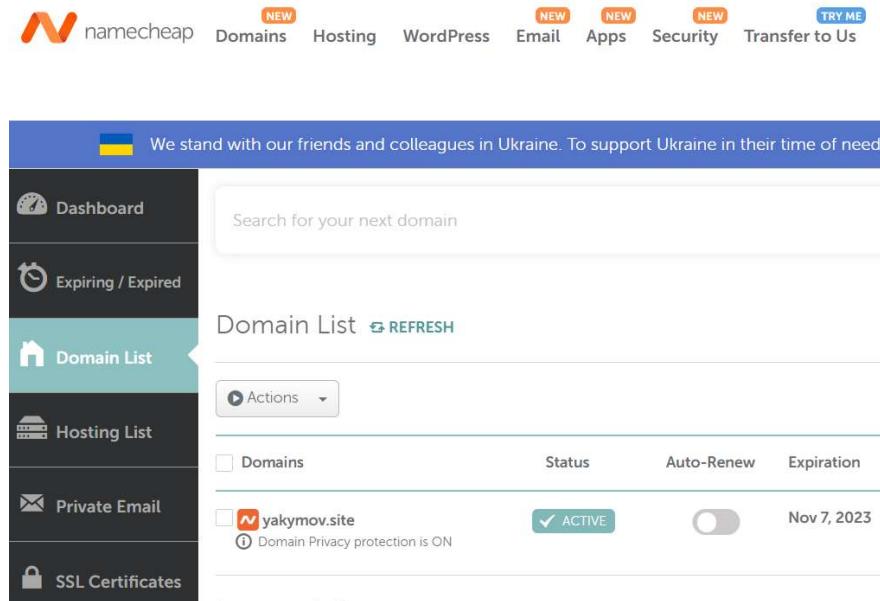
The screenshot shows the 'EBS Volumes' configuration page. At the top, 'EBS Volumes' is highlighted with a green box and the number '1'. Below, there are two volume configurations. The first volume, 'Volume 1 (AMI Root)', has its 'Snapshot' field set to 'snap-001e4fa43ff6b0e6e'. The second volume, 'Volume 2 (Custom)', has its 'Snapshot' field set to 'snap-063d599de22b027ce', which is also highlighted with a green box. Both volumes have their 'Device name' set to '/dev/xvda' and '/dev/sdf' respectively. The 'File systems' section at the bottom is shown with 'Show details'.

## Mounting an attached volume and checking that file1.txt and file2.txt on disk

```
[ec2-user@ip-172-31-82-157 Disk_D]$ df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        474M    0  474M   0% /dev
tmpfs          483M    0  483M   0% /dev/shm
tmpfs          483M  448K 483M   1% /run
tmpfs          483M    0  483M   0% /sys/fs/cgroup
/dev/xvda1     8.0G  1.8G  6.3G  22% /
tmpfs          97M    0   97M   0% /run/user/1000
[ec2-user@ip-172-31-82-157 Disk_D]$ lsblk
NAME   MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
xvda    202:0    0   8G  0 disk
└─xvda1 202:1    0   8G  0 part /
xvdf    202:80   0   5G  0 disk
[ec2-user@ip-172-31-82-157 Disk_D]$ sudo mount /dev/xvdf /Disk_D
[ec2-user@ip-172-31-82-157 Disk_D]$ df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        474M    0  474M   0% /dev
tmpfs          483M    0  483M   0% /dev/shm
tmpfs          483M  448K 483M   1% /run
tmpfs          483M    0  483M   0% /sys/fs/cgroup
/dev/xvda1     8.0G  1.8G  6.3G  22% /
tmpfs          97M    0   97M   0% /run/user/1000
/dev/xvdf      5.0G  38M  5.0G   1% /Disk_D
[ec2-user@ip-172-31-82-157 Disk_D]$ cd /Disk_D/
[ec2-user@ip-172-31-82-157 Disk_D]$ ls -la
total 8
drwxr-xr-x  2 root root  40 Nov  6 18:05 .
dr-xr-xr-x 19 root root 271 Nov  6 17:43 ..
-rw-r--r--  1 root root 773 Nov  6 18:03 file1.txt
-rw-r--r--  1 root root 117 Nov  6 18:05 file2.txt
[ec2-user@ip-172-31-82-157 Disk_D]$ █
```

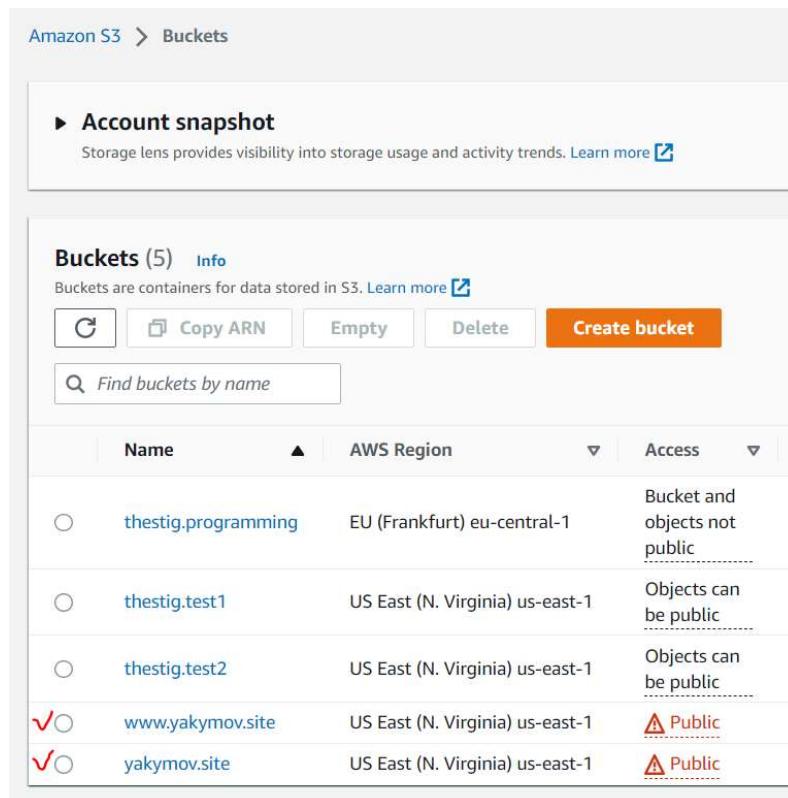
12. Review the 10-minute example. Explore the possibilities of creating your own domain and domain name for your site. Note, that Route 53 not free service. Alternatively you can free register the domain name \*.PP.UA and use it.

1. I bought and registered my domain name at [namecheap.com](https://www.namecheap.com) website.



The screenshot shows the Namecheap dashboard with the 'Domain List' tab selected. A banner at the top states: "We stand with our friends and colleagues in Ukraine. To support Ukraine in their time of need". The domain 'yakymov.site' is listed in the Domain List, which includes columns for Actions, Domains, Status, Auto-Renew, and Expiration. The domain 'yakymov.site' is marked as ACTIVE, has Domain Privacy protection ON, and its expiration date is Nov 7, 2023.

2. Created at AWS S3 service new buckets “yakymov.site” with enable Static website hosting and Public permissions, and put there a small static website(index.html) and bucket “www. yakymov.site” which have option Redirect request to “yakymov.site”.



The screenshot shows the AWS S3 Buckets page. It displays five buckets: 'thestig.programming', 'thestig.test1', 'thestig.test2', 'www.yakymov.site', and 'yakymov.site'. The 'www.yakymov.site' and 'yakymov.site' buckets are highlighted with red checkmarks and labeled as 'Public'. The 'yakymov.site' bucket has a status message indicating 'Bucket and objects not public'.

Name	AWS Region	Access
thestig.programming	EU (Frankfurt) eu-central-1	Bucket and objects not public
thestig.test1	US East (N. Virginia) us-east-1	Objects can be public
thestig.test2	US East (N. Virginia) us-east-1	Objects can be public
✓ www.yakymov.site	US East (N. Virginia) us-east-1	⚠️ Public
✓ yakymov.site	US East (N. Virginia) us-east-1	⚠️ Public

Amazon S3 > Buckets > yakymov.site ✓

## yakymov.site Info

Publicly accessible

✓ Objects Properties Permissions Metrics Management

### Bucket overview

AWS Region US East (N. Virginia) us-east-1	Amazon Resource Name (ARN) arn:aws:s3:::yakymov.site
---	---

### Static website hosting

Use this bucket to host a website or redirect requests. [Learn more](#)

Static website hosting  
Enabled ✓

Hosting type  
Bucket hosting ✓

Bucket website endpoint  
When you configure your bucket as a static website, the website is available at the AWS Region-specific endpoint.

http://yakymov.site.s3-website-us-east-1.amazonaws.com

Amazon S3 > Buckets > www.yakymov.site ✓

## www.yakymov.site Info

Publicly accessible

✓ Objects Properties Permissions Metrics Management

### Bucket overview

AWS Region US East (N. Virginia) us-east-1	Amazon Resource Name (ARN) arn:aws:s3:::www.yakymov.site
---	---

### Static website hosting

Use this bucket to host a website or redirect requests. [Learn more](#)

Static website hosting  
Enabled ✓

Hosting type  
Redirect request ✓

Bucket website endpoint  
When you configure your bucket as a static website, the website is available at the AWS Region-specific endpoint.

http://www.yakymov.site.s3-website-us-east-1.amazonaws.com

3. Than created at Route 53 service Hosted zone with domain name “yakymov.site” and Public permissions.

The screenshot shows the AWS Route 53 service interface. On the left, a sidebar menu includes 'Dashboard', 'Hosted zones' (which is selected and highlighted with a red checkmark), 'Health checks', 'IP-based routing', 'CIDR collections', 'Traffic flow', 'Traffic policies', and 'Policy records'. The main content area is titled 'Route 53 > Hosted zones' and shows a table for 'Hosted zones (1)'. The table has columns for 'Domain name', 'Type', and 'Created by'. A single row is listed: 'yakymov.site' (with a red checkmark next to it), 'Public', and 'Route 53'.

4. After creation Hosted zone we have the addresses of DNS servers which responsible for the zone “yakymov.site” (Record type NS).

This screenshot shows the 'Hosted zone details' page for the 'yakymov.site' zone. In the top navigation bar, 'Records (4)' is selected. The main table is titled 'Records (1/4) Info' and lists four records. The 'yakymov.site' NS record is selected and highlighted with a red checkmark. The table columns include 'Record name', 'Type', 'Routing...', 'Differ...', and 'Value/Route traffic to'. The NS record's value column shows four IP addresses: ns-[REDACTED].com., ns-[REDACTED].org., ns-[REDACTED].co.uk., and ns-[REDACTED].net. To the right of the table, a 'Record details' panel is open, showing the record name 'yakymov.site', record type 'NS', and the value 'ns-[REDACTED].com.', 'ns-[REDACTED].org.', 'ns-[REDACTED].co.uk.', and 'ns-[REDACTED].net'.

5. Finally, I copied the addresses of DNS servers to my account on [namecheap.com](#).

The screenshot shows the Namecheap domain management interface. At the top, there are tabs for 'Domain' (selected) and 'Products'. Below that, 'STATUS & VALIDITY' shows 'ACTIVE' and 'Nov 7, 2022'. Under 'PROTECTION', 'WithheldforPrivacy' is shown with a status of 'Nov 7, 2022'. In the 'NAME SERVERS' section, 'Custom DNS' is selected. The 'Value' field contains the copied DNS server addresses: ns-[REDACTED].org, ns-[REDACTED].co.uk, ns-[REDACTED].com, and ns-[REDACTED].net. A red checkmark is placed next to the 'Custom DNS' dropdown and the first three IP addresses.

6. Result - [yakymov.site](http://yakymov.site).

## 13. Launch and configure a WordPress instance with Amazon Lightsail [link](#)

### Step 1: Create a WordPress instance in Lightsail

The screenshot shows the Amazon Lightsail home page. At the top, there's a navigation bar with links for 'Amazon Lightsail', 'Home', 'Docs', 'Search', 'Account', 'AWS', and 'Billing'. Below the navigation, a large orange banner says 'Good morning!' with a search bar that says 'Filter by name, location, tag, or type'. On the right, there's a 'Help' link. The main content area has a heading 'Instances' with sub-links for 'Containers', 'Databases', 'Networking', 'Storage', and 'Schemas'. A central message says 'You have no instances right now.' with a sub-message 'Create an instance and get started with Lightsail!'. Below this is a 'Create instance' button and a 'Learn more about instances' link. The background features a cartoon character of a person wearing a hard hat and holding a wrench, surrounded by stars. At the bottom, there are links for 'Questions? Comments?' and copyright information: '©2008-2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy | Terms of Use | English'.

Select your instance location

Select a Region

The closer your instance is to your users, the less latency they will experience.

[Learn more about Regions](#)



Select an Availability Zone [?](#)

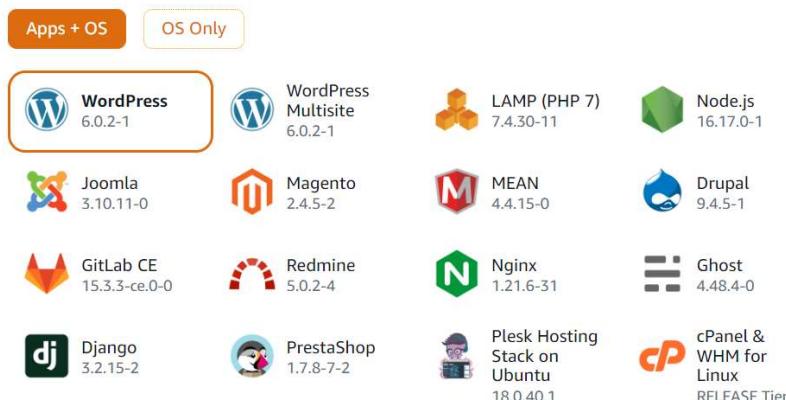


Pick your instance image [?](#)

Select a platform



Select a blueprint



## Choose your instance plan [?](#)

New! Check out our new 16 GB and 32 GB RAM bundles!

Sort by: [Price per month](#) [Memory](#) [Processing](#) [Storage](#) [Transfer](#)

First 3 months free!	First 3 months free!	First 3 months free!	\$20	\$40	
\$3.50 USD	\$5 USD	\$10 USD	\$20 USD	\$40 USD	Price per month
512 MB	1 GB	2 GB	4 GB	8 GB	Memory
1 vCPU	1 vCPU	1 vCPU	2 vCPUs	2 vCPUs	Processing
20 GB SSD	40 GB SSD	60 GB SSD	80 GB SSD	160 GB SSD	Storage
1 TB	2 TB	3 TB	4 TB	5 TB	Transfer

For a limited time, new Lightsail customers can try the selected plan for free for three months.  
[Learn more about the free trial in Lightsail.](#)

## Identify your instance

Your Lightsail resources must have unique names.

WordPress-Server1

x 1

### TAGGING OPTIONS

Use tags to filter and organize your resources in the Lightsail console. Key-value tags can also be used to organize your billing, and to control access to your resources.  
[Learn more about tagging.](#)

### Key-only tags [?](#)

+ Add key-only tags

### Key-value tags [?](#)

+ Add key-value tag

[Create instance](#)

## Step 2: Connect to your instance via SSH and get the password for your WordPress website

### a. On the Instances tab of the Lightsail home page, choose the SSH quick-connect icon for your WordPress instance.

1 [Instances](#) [Containers](#) [Databases](#) [Networking](#) [Storage](#) [Domains & DNS](#) [Snapshots](#)

Sort by Date ▾

 <b>WordPress-Server1</b> 512 MB RAM, 1 vCPU, 20 GB SSD Running 2a05:d014:69e:2800:e ⋮	<a href="#">Connect</a> <a href="#">Manage</a> <a href="#">Stop</a> <a href="#">Reboot</a> <a href="#">Delete</a>
--	---

**b. After the browser-based SSH client window opens, enter the following command to retrieve the default application password:**

```
cat $HOME/bitnami_application_password
```

```
Linux ip-172-26-3-115 4.19.0-20-cloud-amd64 #1 SMP Debian 4.19.235-1 (2022-03-17) x86_64
The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.

[REDACTED]

*** Welcome to the WordPress packaged by Bitnami 5.9.3-8 ***
*** Documentation: https://docs.bitnami.com/aws/apps/wordpress/ ***
*** https://docs.bitnami.com/aws/ ***
*** Bitnami Forums: https://community.bitnami.com/ ***
bitnami@ip-172-26-3-115:~$ cat $HOME/bitnami_application_password
kqw65Vnl88z2
bitnami@ip-172-26-3-115:~$
```

WordPress-Tutorial-1  
35.175.214.230

### **Step 3: Sign in to the administration dashboard of your WordPress website**

#### **a. In a browser, go to:**

```
http://PublicIpAddress/wp-login.php
```

replace PublicIpAddress with the public IP address of your WordPress instance.

Instances    Containers    Databases    Networking    Storage

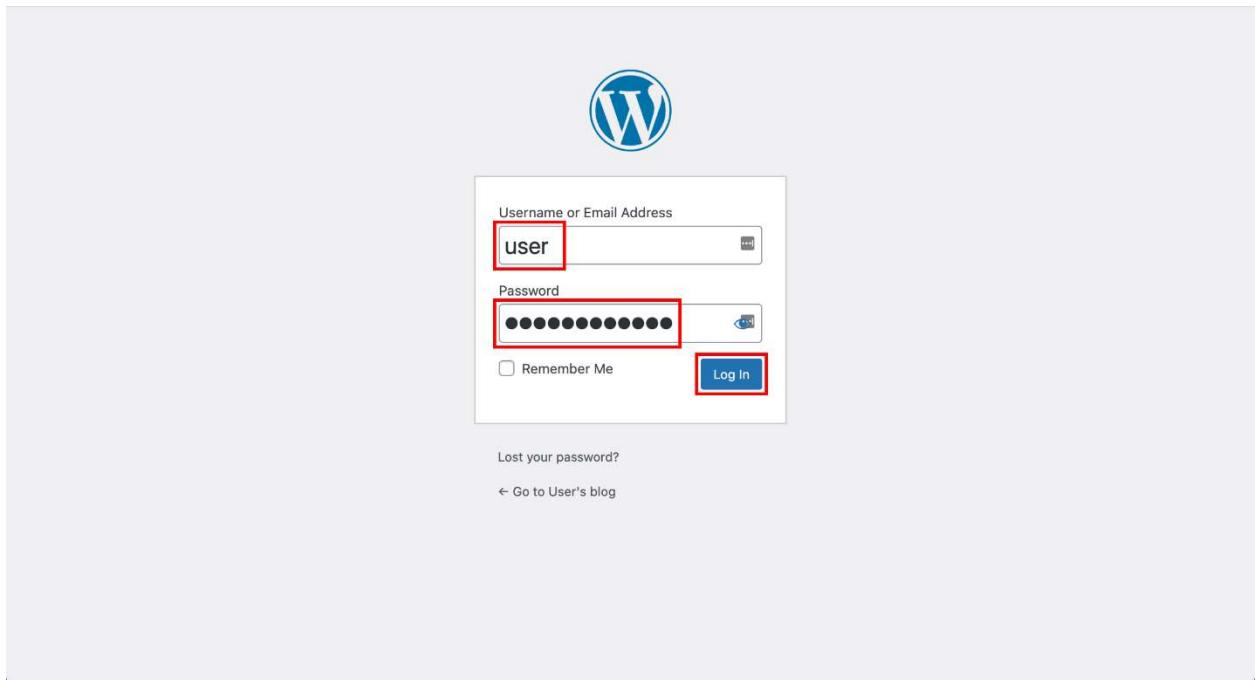
Sort by Date ▾

WordPress-Server1	54.93.125.25
	54.93.125.25
512 MB RAM, 1 vCPU, 20 GB SSD	2a05:d014:69e:2800:efa4:84c6:5a55:571
Running	Frankfurt, Zone A

### a. Log in to your instance.:

In the Username or Email Address box, enter user.

In the Password box, enter the default password obtained earlier



A screenshot of the WordPress dashboard. The top navigation bar shows 'User's blog' and '11' notifications. On the left is a dark sidebar with various menu items: Home (Updates 11), Jetpack, Posts, Media, Pages, Comments, Appearance, Plugins (7), Users, Tools, Settings, and a 'Collapse menu' option. The main content area has a large 'Welcome to WordPress!' heading and a 'Learn more about the 6.0.3 version.' link. A prominent '6.0' graphic is on the right. A message box at the top says 'WordPress 6.1 is available! Please update now.' In the bottom right corner, there are three cards: one about rich content with blocks and patterns, one about block themes, and one about site styles. The bottom right also features a 'Dismiss' button. The overall theme is light blue and white.

## Step 4: Create a Lightsail static IP address and attach it to your WordPress instance

Instances   Containers   Databases   **Networking**   Storage   Domains & DNS   Snapshots

### Connect your project!

Networking resources allow you to specify how users and outside services connect to your Lightsail resources. They can be used to specify routing of internet traffic, speed up the delivery of your content, improve redundancy, and increase the capacity of your resources.



#### Static IP

A static IP is a fixed, public IP address that you can attach to an instance.

[Learn more about static IPs](#)

✓ [Create static IP](#)



#### Distribution

A content delivery network (CDN) distribution speeds up the delivery of your content to your users around the world.

[Learn more about distributions](#)

[Create distribution](#)

### Static IP location [?](#)



You are creating this static IP in **Frankfurt, all zones** (eu-central-1)

[Change AWS Region and Availability Zone](#)

### Attach to an instance ✓

Attaching a static IP replaces that instance's dynamic IP address.



#### WordPress-Server1

512 MB RAM, 1 vCPU, 20 GB SSD  
WordPress

[Cancel](#) ✖

### Identify your static IP

Your Lightsail resources must have unique names.



StaticIp-WordPress-Server1

**Static IP addresses are free only while attached to an instance.**

You can manage five at no additional cost.

[Create](#)



## Step 5: Create a Lightsail DNS zone and map a domain to your WordPress instance



### Create a DNS Zone ✓

A DNS zone contains the domain name system (DNS) records for your domain. By creating a DNS zone, you can easily map your registered domain and its subdomains to your Lightsail resources. If you have a domain registered elsewhere, you can add it to Lightsail by creating a DNS zone.

[Learn more about DNS zones](#)

[Create DNS zone](#)



### Register a domain

Use Lightsail to register a new domain with Amazon Route 53. After you register your domain name, Lightsail automatically creates a DNS zone that has the same name as the domain.

[Learn more about domain registration in Lightsail](#)

[Register domain](#)



DNS zones are **Global** resources.  
They can reference any instance or load balancer in any Region.

### Domain configuration

You must register your domain before creating a DNS zone.

[Learn more about domain registration in Lightsail](#)

#### Domain source

- Use a domain that is registered with Amazon Route 53
- Use a domain from another registrar

#### Domain name

Specify your registered domain name.

yakymov.website

Enter the first part of the name and the extension (such as example.com), without www.

### Next steps

After you choose **Create DNS zone**, you get a set of Lightsail name servers.

To transfer management of your domain's DNS to Lightsail, you must add the name servers to the current DNS hosting provider for your domain.

[Learn more about transferring domain management](#)



# yakymov.site

DNS zone

Global, all zones

[Domains](#)[Assignments](#)[DNS records](#)

## DNS records

Each record in a DNS zone defines how you want to route internet traffic for your domain. For example, you can add DNS records that route traffic to your Lightsail resources, another domain, or a mail server.

[Learn more about editing DNS records](#)

[+ Add record](#)

✓ Record type  — Routes traffic to an IPv4 address

✓ Record name  .yakymov.site ✓ Resolves to

[Cancel](#) [Save](#)

[Instances](#)[Containers](#)[Databases](#)[Networking](#)[Storage](#)[Domains & DNS](#)[Snapshots](#)

You can register a domain, or create a DNS zone for a registered domain.

[Create DNS zone](#)

## DNS zones

A DNS zone contains the domain name system (DNS) records for your domain. By creating a DNS zone, you can easily map your registered domain and its subdomains to your Lightsail resources. If you have a domain registered elsewhere, you can add it to Lightsail by creating a DNS zone.

[Learn more about DNS zones](#)



# yakymov.site

DNS zone

Global



14. Review the 10-minute [Store and Retrieve a File](#). Repeat, creating your own repository

a. Creating an S3 bucket

The screenshot shows the 'Amazon S3 > Buckets' page. On the left, a sidebar menu includes 'Buckets' (selected), 'Access Points', 'Object Lambda Access Points', 'Multi-Region Access Points', 'Batch Operations', 'Access analyzer for S3', 'Block Public Access settings for this account', 'Storage Lens', 'Dashboards', 'AWS Organizations settings', and a 'Feature spotlight' section. The main area displays an 'Account snapshot' with a link to 'View Storage Lens dashboard'. Below it is a table titled 'Buckets (5)' with columns for Name, AWS Region, and Access. A single row is visible: 'thestig.programming' in 'EU (Frankfurt) eu-central-1'. To the right of the table, a note says 'Bucket and objects not public.....'. At the bottom of the page is a large orange 'Create bucket' button with a checkmark icon.

The screenshot shows the 'Create bucket' configuration page. The top navigation bar shows 'Amazon S3 > Buckets > Create bucket'. The main section is titled 'General configuration' and contains fields for 'Bucket name' (set to 'MyTaskBucket') and 'AWS Region' (set to 'US East (N. Virginia) us-east-1'). A note below these fields states: 'Copy settings from existing bucket - optional' and 'Only the bucket settings in the following configuration are copied.' A 'Choose bucket' button is present. Below this is the 'Object Ownership' section, which includes a note: 'Control ownership of objects written to this bucket from other AWS accounts and the use of access control lists (ACLs). Object ownership determines who can specify access to objects.' Two radio button options are shown: 'ACLs disabled (recommended)' (selected) and 'ACLs enabled'. The 'ACLs disabled' option notes: 'All objects in this bucket are owned by this account. Access to this bucket and its objects is specified using only policies.' The 'ACLs enabled' option notes: 'Objects in this bucket can be owned by other AWS accounts. Access to this bucket and its objects can be specified using ACLs.' At the bottom of the page, the status 'Object Ownership Bucket owner enforced' is displayed.



## Block Public Access settings for this bucket

Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to this bucket and its objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to this bucket or objects within, you can customize the individual settings below to suit your specific storage use cases. [Learn more](#)

### **Block all public access**

Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.

#### **Block public access to buckets and objects granted through new access control lists (ACLs)**

S3 will block public access permissions applied to newly added buckets or objects, and prevent the creation of new public access ACLs for existing buckets and objects. This setting doesn't change any existing permissions that allow public access to S3 resources using ACLs.

#### **Block public access to buckets and objects granted through any access control lists (ACLs)**

S3 will ignore all ACLs that grant public access to buckets and objects.

#### **Block public access to buckets and objects granted through new public bucket or access point policies**

S3 will block new bucket and access point policies that grant public access to buckets and objects. This setting doesn't change any existing policies that allow public access to S3 resources.

#### **Block public and cross-account access to buckets and objects through any public bucket or access point policies**

S3 will ignore public and cross-account access for buckets or access points with policies that grant public access to buckets and objects.



## Bucket Versioning

Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintended user actions and application failures. [Learn more](#)

### Bucket Versioning

- Disable  
 Enable

## Tags (0) - optional

You can use bucket tags to track storage costs and organize buckets. [Learn more](#)

No tags associated with this bucket.

[Add tag](#)

## Default encryption

Automatically encrypt new objects stored in this bucket. [Learn more](#)

### Server-side encryption

- Disable  
 Enable

## ► Advanced settings

After creating the bucket you can upload files and folders to the bucket, and configure additional bucket settings.

[Cancel](#)

[Create bucket](#)



## b. Upload a file

Amazon S3 > Buckets

▶ Account snapshot

Storage lens provides visibility into storage usage and activity trends. [Learn more](#)

[View Storage Lens dashboard](#)

Buckets (6) [Info](#)

Buckets are containers for data stored in S3. [Learn more](#)

[Create bucket](#)

Find buckets by name

Name	AWS Region	Access	Creation date
thestig.mytaskbucket	US East (N. Virginia) us-east-1	Bucket and objects not public	November 8, 2022, 23:05:08 (UTC+02:00)

thestig.mytaskbucket [Info](#) ✓

[Objects](#) [Properties](#) [Permissions](#) [Metrics](#) [Management](#) [Access Points](#)

Objects (0)

Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

[Copy S3 URI](#) [Copy URL](#) [Download](#) [Open](#) [Delete](#) [Actions](#)

[Create folder](#) [Upload](#) ✓

Find objects by prefix

Name	Type	Last modified	Size	Storage class
No objects				

You don't have any objects in this bucket.

[Upload](#)

Upload [Info](#)

Add the files and folders you want to upload to S3. To upload a file larger than 160GB, use the AWS CLI, AWS SDK or Amazon S3 REST API. [Learn more](#)

Drag and drop files and folders you want to upload here, or choose Add files, or Add folders.

Files and folders (2 Total, 422.8 KB)

All files and folders in this table will be uploaded.

[Remove](#) [Add files](#) [Add folder](#)

Find by name

	Name	Folder	Type	Size
<input type="checkbox"/>	photo_2022-09-29_11-37-50.jpg	-	image/jpeg	239.7 KB
<input type="checkbox"/>	photo_2022-09-29_19-00-40.jpg	-	image/jpeg	183.0 KB

**Destination**

Destination  
s3://thestig.mytaskbucket ✓

► **Destination details**  
Bucket settings that impact new objects stored in the specified destination.

▼ **Permissions**  
Grant public access and access to other AWS accounts.

ⓘ This bucket has the **bucket owner enforced** setting applied for Object Ownership. Use bucket policies to control access. [Learn more](#) ✓

► **Properties**  
Specify storage class, encryption settings, tags, and more. ✓

Cancel **Upload**

### c. Retrieve the object

Amazon S3 > Buckets > thestig.mytaskbucket

thestig.mytaskbucket [Info](#)

Objects	Properties	Permissions	Metrics	Management	Access Points
<b>Objects (2)</b>					
Objects are the fundamental entities stored in Amazon S3. You can use <a href="#">Amazon S3 inventory</a> to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. <a href="#">Learn more</a> ✓					
<input type="checkbox"/>	<input type="checkbox"/> Copy S3 URI	<input type="checkbox"/> Copy URL	<input type="checkbox"/> Download	<input type="checkbox"/> Open	<input type="checkbox"/> Delete
<input type="button" value="Create folder"/>	<input style="background-color: orange; color: white; border: none; font-weight: bold; font-size: inherit; padding: 2px 10px; border-radius: 5px; margin-right: 10px;" type="button" value="Upload"/>	✓			
<input type="text"/> Find objects by prefix <span style="float: right;">&lt; 1 &gt; </span>					
Name	Type	Last modified	Size	Storage class	
<input checked="" type="checkbox"/> ✓ photo_2022-09-29_11-37-50.jpg	jpg	November 8, 2022, 23:11:43 (UTC+02:00)	239.7 KB	Standard	
<input type="checkbox"/> photo_2022-09-29_19-00-40.jpg	jpg	November 8, 2022, 23:11:43 (UTC+02:00)	183.0 KB	Standard	

#### d. Delete the object and bucket

thestig.mytaskbucket [Info](#)

Objects Properties Permissions Metrics Management Access Points

### Objects (2)

Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

Actions ▾

Create folder

Find objects by prefix

Name	Type	Last modified	Size	Storage class
	jpg	November 8, 2022, 23:11:43 (UTC+02:00)	239.7 KB	Standard
	jpg	November 8, 2022, 23:11:43 (UTC+02:00)	183.0 KB	Standard

photo\_2022-09-29\_19-00-40.jpg

### Delete objects [Info](#)

• If a folder is selected for deletion, all objects in the folder will be deleted, and any new objects added while the delete action is in progress might also be deleted. If an object is selected for deletion, any new objects with the same name that are uploaded before the delete action is completed will also be deleted.  
• Deleting the specified objects can't be undone.

[Learn more](#)

### Specified objects

Find objects by name

Name	Type	Last modified	Size
<a href="#">photo_2022-09-29_19-00-40.jpg</a>	jpg	November 8, 2022, 23:11:43 (UTC+02:00)	183.0 KB

### Permanently delete objects?

To confirm deletion, type *permanently delete* in the text input field.

permanently delete

[Cancel](#)

Amazon S3

Buckets

- Access Points
- Object Lambda Access Points
- Multi-Region Access Points
- Batch Operations
- Access analyzer for S3

Block Public Access settings for this account

Storage Lens

- Dashboards
- AWS Organizations settings

Feature spotlight 3

Amazon S3 > Buckets

Account snapshot

Storage lens provides visibility into storage usage and activity trends. [Learn more](#)

[View Storage Lens dashboard](#)

Buckets (6) [Info](#)

Buckets are containers for data stored in S3. [Learn more](#)

[Create bucket](#)

[Copy ARN](#) [Empty](#) [Delete](#) ✓

Find buckets by name

Name	AWS Region	Access
thestig.mytaskbucket	US East (N. Virginia) us-east-1	Bucket and objects not public

Amazon S3 > Buckets > thestig.mytaskbucket > Delete bucket ✓

## Delete bucket [Info](#)

- ⚠ • Deleting a bucket cannot be undone.  
• Bucket names are unique. If you delete a bucket, another AWS user can use the name.

[Learn more](#)

### Delete bucket "thestig.mytaskbucket"?

To confirm deletion, enter the name of the bucket in the text input field.

thestig.mytaskbucket ✓

Cancel

[Delete bucket](#)

15. Review the 10-minute [example](#) Batch upload files to the cloud to Amazon S3 using the AWS CLI. Create a user AWS IAM, configure CLI AWS and upload any files to S3

### Step 1: Create an AWS IAM User

The screenshot shows the AWS IAM service interface. On the left, there's a navigation pane with options like 'Identity and Access Management (IAM)', 'Dashboard', 'Access management', 'Users' (which is selected), 'Roles', 'Policies', 'Identity providers', and 'Account settings'. Under 'Access management', there are sub-options for 'User groups', 'Users', 'Roles', 'Policies', 'Identity providers', and 'Account settings'. The main content area is titled 'Users (1) Info' and shows a table with one row for 'Administrator'. The table columns include 'User name' (Administrator), 'Groups' (Administrators), 'Last activity' (2 hours ago), 'MFA' (None), and 'Password a...' (2 days ago). At the top right of this section, there are 'Add users', 'Delete', and other buttons. A red box highlights the 'Add users' button.

The screenshot shows the 'Add user' wizard, step 2: 'Set user details'. It has five steps numbered 1 to 5 at the top right. Step 1 is active. The form asks for 'User name\*' (AWS\_admin) and has a link to 'Add another user'. Below it, 'Select AWS access type' is set to 'Access key - Programmatic access' (checked), which is highlighted with a red box. There's also an option for 'Password - AWS Management Console access' (unchecked). A note says: 'Select how these users will primarily access AWS. If you choose only programmatic access, it does NOT prevent users from accessing the console using an assumed role. Access keys and autogenerated passwords are provided in the last step.' A link to 'Learn more' is provided.

The screenshot shows the 'Add user' wizard, step 3: 'Next: Permissions'. It has five steps numbered 1 to 5 at the top right. Step 2 is active. The 'Required' field is marked with an asterisk (\*). The 'Next: Permissions' button is highlighted with a red box.

The screenshot shows the 'Add user' wizard, step 4: 'Set permissions'. It has five steps numbered 1 to 5 at the top right. Step 3 is active. There are three buttons: 'Add user to group', 'Copy permissions from existing user', and 'Attach existing policies directly' (highlighted with a red box). Below is a table of policies:

Policy name	Type	Used as
<input checked="" type="checkbox"/> AdministratorAccess	Job function	Permissions policy (1)
<input type="checkbox"/> AdministratorAccess-Amplify	AWS managed	None
<input type="checkbox"/> AdministratorAccess-AWSElasticBeanstalk	AWS managed	None
<input type="checkbox"/> AlexaForBusinessDeviceSetup	AWS managed	None
<input type="checkbox"/> AlexaForBusinessFullAccess	AWS managed	None
<input type="checkbox"/> AlexaForBusinessGatewayExecution	AWS managed	None

At the bottom, there are 'Cancel', 'Previous', and 'Next: Tags' buttons. The 'Next: Tags' button is highlighted with a red box.

The screenshot shows the 'Review' step of the 'Add user' wizard in the AWS IAM console. At the top, there's a navigation bar with tabs like 'Console Home', 'AWS Budgets', 'IAM', 'CloudWatch', 'RDS', 'EC2', 'S3', 'Lambda', 'CloudShell', 'VPC', 'CloudFormation', and 'CloudWatch Metrics'. Below the navigation bar, the main title is 'Add user' with a progress indicator showing step 4 of 4. The 'Review' section contains the following details:

**User details**

User name	AWS_admin
AWS access type	Programmatic access - with an access key
Permissions boundary	Permissions boundary is not set

**Permissions summary**

The following policies will be attached to the user shown above.

Type	Name
Managed policy	AdministratorAccess

**Tags**

The new user will receive the following tag

Key	Value
Name	Admin

At the bottom right, there are buttons for 'Cancel', 'Previous', 'Create user', and a red checkmark icon.

## Step 2: Install and Configure the AWS CLI (Windows)

- a. Download and run the Windows installer
- b. Type aws configure and press enter. When prompted, enter the following:

The screenshot shows a Windows PowerShell window titled 'Windows PowerShell'. The output of the command 'aws configure' is displayed:

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

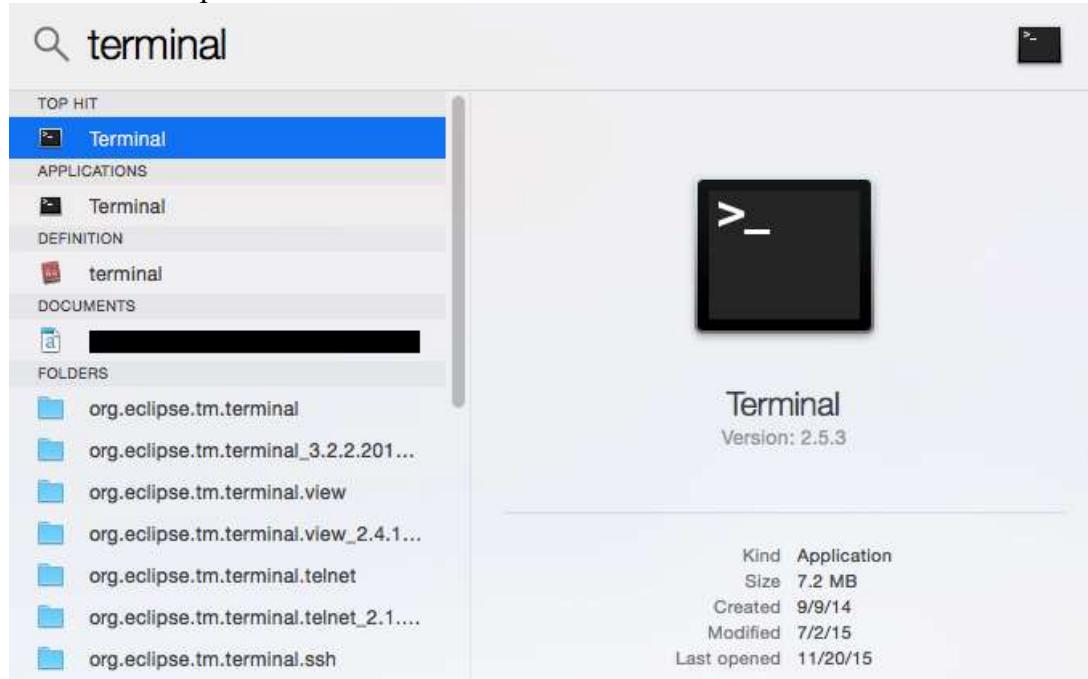
Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\Yevhen Yakymov> aws configure
AWS Access Key ID [*****7NVR]: /*****T7U45PSMRD
AWS Secret Access Key [*****Q78g]: /*****TOTGQwImP7sS/30TbNrqpo+RTLYa
Default region name [us-east-1]: us-east-1
Default output format [json]: json
PS C:\Users\Yevhen Yakymov>
```

### Step 3: Install and Configure the AWS CLI (Mac/Linux)

- a. Follow these directions for installing the AWS CLI bundled installer.
- b. MacOS users: Open a terminal window by pressing Command + Space and typing terminal in the search window. Then press enter to open the terminal window.

Linux users: Open a terminal window.



- c. Type aws configure and press enter. Enter the following when prompted:

```
Last login: Fri Dec 11 10:42:06 on ttys000
b8e856392176:~ adamglic$ aws configure
AWS Access Key ID [None]: AK [REDACTED] Q
AWS Secret Access Key [None]: 2U [REDACTED] S
Default region name [None]: us-east-1
Default output format [None]: json
b8e856392176:~ adamglic$
```

AWS Access Key ID [None]: Enter the Access Key Id from the credentials.csv file you downloaded in step 1, part d

Note: This should look something like AKIAPWINCOKAO3U4FWTN

AWS Secret Access Key [None]: Enter the Secret Access Key from the credentials.csv file you downloaded in step 1, part d

Note: This should look something like 5dqQFBaGuPNf5z7NhFrgou4V5JJNaWPy1XFzBfX3

Default region name [None]: Enter us-east-1

Default output format [None]: Enter json

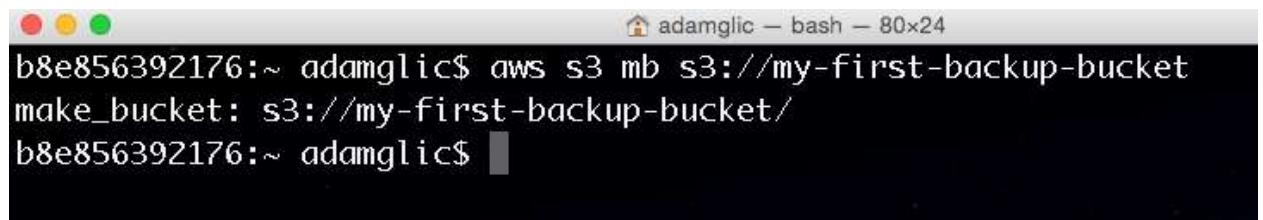
## Step 4: Using the AWS CLI with Amazon S3

In this step, you will use the AWS CLI to create a bucket in Amazon S3 and copy a file to the bucket.

- Creating a bucket is optional if you already have a bucket created that you want to use. To create a new bucket named `my-first-backup-bucket` type:

```
aws s3 mb s3://my-first-backup-bucket
```

Note: Bucket naming has some restrictions; one of those restrictions is that bucket names must be globally unique (e.g., two different AWS users can not have the same bucket name); because of this, if you try the command above you will get a `BucketAlreadyExists` error.

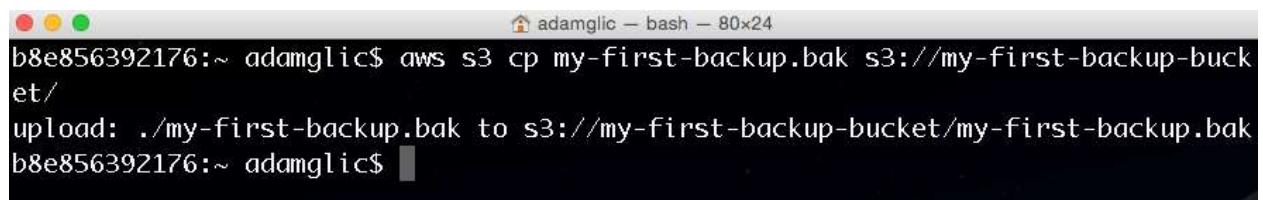


```
adamglic ~ bash - 80x24
b8e856392176:~ adamglic$ aws s3 mb s3://my-first-backup-bucket
make_bucket: s3://my-first-backup-bucket/
b8e856392176:~ adamglic$
```

- To upload the file `my first backup.bak` located in the local directory (`C:\users`) to the S3 bucket `my-first-backup-bucket`, you would use the following command:

```
aws s3 cp "C:\users\my first backup.bak" s3://my-first-backup-bucket/
```

Or, use the original syntax if the filename contains no spaces.



```
adamglic ~ bash - 80x24
b8e856392176:~ adamglic$ aws s3 cp my-first-backup.bak s3://my-first-backup-bucket/
upload: ./my-first-backup.bak to s3://my-first-backup-bucket/my-first-backup.bak
b8e856392176:~ adamglic$
```

- To download `my-first-backup.bak` from S3 to *the local directory* we would reverse the order of the commands as follows:

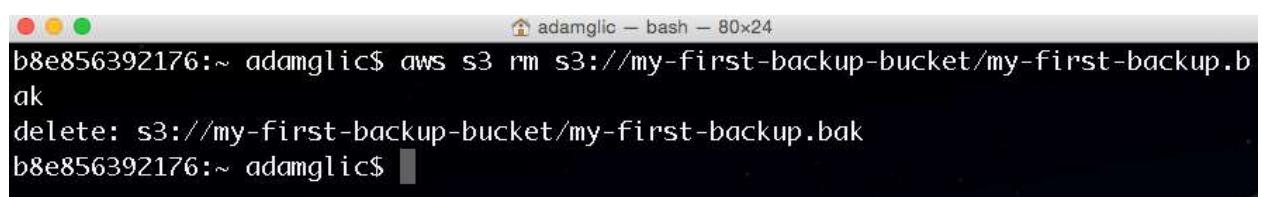
```
aws s3 cp s3://my-first-backup-bucket/my-first-backup.bak ./
```



```
adamglic ~ bash - 80x24
b8e856392176:~ adamglic$ aws s3 cp s3://my-first-backup-bucket/my-first-backup.bak ./
download: s3://my-first-backup-bucket/my-first-backup.bak to ./my-first-backup.bak
b8e856392176:~ adamglic$
```

- To delete `my-first-backup.bak` from your `my-first-backup-bucket` bucket, use the following command:

```
aws s3 rm s3://my-first-backup-bucket/my-first-backup.bak
```

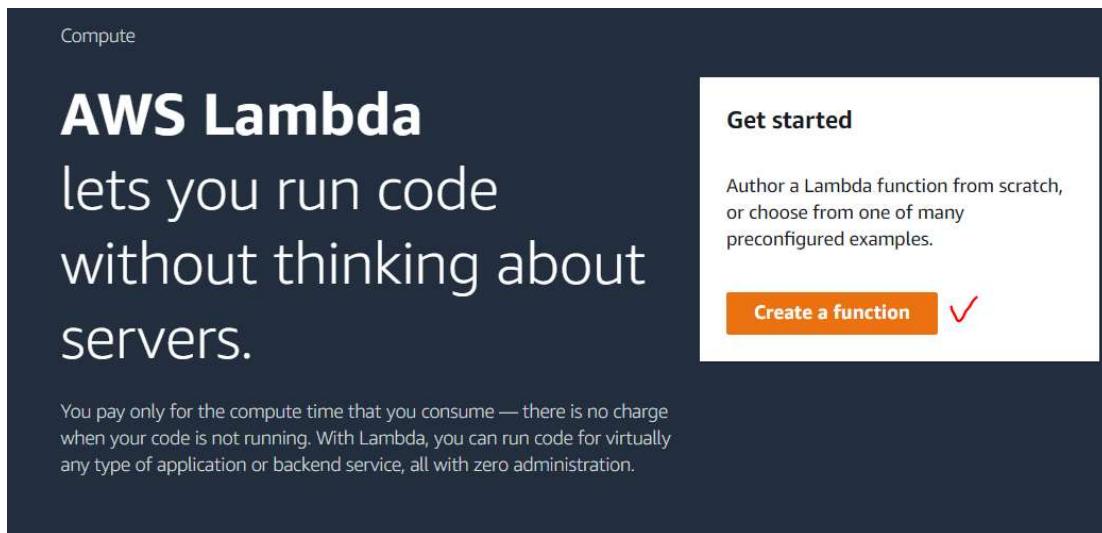


```
adamglic ~ bash - 80x24
b8e856392176:~ adamglic$ aws s3 rm s3://my-first-backup-bucket/my-first-backup.bak
delete: s3://my-first-backup-bucket/my-first-backup.bak
b8e856392176:~ adamglic$
```

16. Review the 10-minute [example](#) Deploy Docker Containers on Amazon Elastic Container Service (Amazon ECS). Repeat, create a cluster, and run the online demo application or better other application with custom settings.

## 17. Run a Serverless "Hello, World!" with AWS Lambda.

### a: Select a Lambda blueprint



The screenshot shows the AWS Lambda homepage. On the right, there's a 'Get started' section with a 'Create a function' button, which has a red checkmark next to it. Below this, there's a snippet of Python code:

```
1* def lambda_handler(event, context):
2    print(event)
3    return 'Hello from Lambda!'
4
```

Below the homepage, the URL 'Lambda > Functions > Create function' is visible. The 'Create function' page has three options: 'Author from scratch', 'Use a blueprint' (which is selected and highlighted with a red checkmark), and 'Container image'. Under 'Blueprints', there's a search bar with 'Name = hello-world-python' and a red checkmark, and a 'Configure' button at the bottom right.

## b: Configure and create your Lambda function

Lambda > Functions > Create function > Configure blueprint hello-world-python

### Basic information Info

Function name ✓  
hello-world-python

Execution role  
Choose a role that defines the permissions of your function. To create a custom role, go to the [IAM console](#).

Create a new role with basic Lambda permissions

Use an existing role

Create a new role from AWS policy templates ✓

ⓘ Role creation might take a few minutes. Please do not delete the role or edit the trust or permissions policies in this role.

Role name  
Enter a name for your new role.  
 ✓

Use only letters, numbers, hyphens, or underscores with no spaces.

Policy templates - *optional* Info  
Choose one or more policy templates.

### Lambda function code

Code is preconfigured by the chosen blueprint. You can configure it after you create the function. [Learn more about deploying Lambda functions](#).

ⓘ This function contains external libraries. X

Runtime	Architecture
Python 3.7	x86_64

```
1 import json
2
3 print('Loading function')
4
5
6 def lambda_handler(event, context):
7     #print("Received event: " + json.dumps(event, indent=2))
8     print("value1 = " + event['key1'])
9     print("value2 = " + event['key2'])
10    print("value3 = " + event['key3'])
11    return event['key1'] # Echo back the first key value
12    #raise Exception('Something went wrong')
13
```

✓

Create function

## c: Invoke Lambda function and verify results

The screenshot shows the AWS Lambda console interface. At the top, there's a navigation bar with various services like Services, Search, Alt+S, and N. Virginia. Below it, the Lambda service is selected. The main area displays the 'hello-world-python' function details:

- Name:** hello-world-python
- Description:** A starter AWS Lambda function.
- Last modified:** 2 minutes ago
- Function ARN:** arn:aws:lambda:us-east-1:389890997503:function:hello-world-python
- Function URL:** -

Below the details, there are tabs for Code, Test, Monitor, Configuration, Aliases, and Versions. The Code tab is active, showing the code source. The code editor contains the following Python script:

```
import json

print('Loading function')

def lambda_handler(event, context):
    #print("Received event: " + json.dumps(event, indent=2))
    print("value1 = " + event['key1'])
    print("value2 = " + event['key2'])
    print("value3 = " + event['key3'])
    return event['key1'] # Echo back the first key value
    #raise Exception('Something went wrong')
```

A red checkmark is placed over the 'Test' button in the toolbar above the code editor.

## Configure test event

X

A test event is a JSON object that mocks the structure of requests emitted by AWS services to invoke a Lambda function. Use it to see the function's invocation result.

To invoke your function without saving an event, configure the JSON event, then choose Test.

### Test event action

Create new event ✓

Edit saved event

### Event name

HelloWorldEvent ✓

Maximum of 25 characters consisting of letters, numbers, dots, hyphens and underscores.

### Event sharing settings

Private ✓

This event is only available in the Lambda console and to the event creator. You can configure a total of 10. [Learn more](#)

Shareable

This event is available to IAM users within the same account who have permissions to access and use shareable events. [Learn more](#)

### Template - optional

hello-world ✓



### Event JSON

Format JSON

```
1 * {  
2     "key1": "hello, world", ✓  
3     "key2": "value2",  
4     "key3": "value3"  
5 }
```

Cancel

Save ✓

The test event **HelloWorldEvent** was successfully saved.

**Code** | Test | Monitor | Configuration | Aliases | Versions

**Code source** [Info](#)

File Edit Find View Go Tools Window **Test** Deploy

Environment Go to Anything (Ctrl-P) lambda\_function Execution result:

Status: Succeeded Max memory used: 36 MB Time: 17.33 ms

Execution results

Test Event Name HelloWorldEvent

Response "hello, world!"

Function Logs

```
START RequestId: f871560f-472b-4e4b-8fd5-9e9fea189415 Version: $LATEST
value1 = hello, world!
value2 = value2
value3 = value3
END RequestId: f871560f-472b-4e4b-8fd5-9e9fea189415
REPORT RequestId: f871560f-472b-4e4b-8fd5-9e9fea189415 Duration: 17.33 ms Billed Duration:
Request ID
f871560f-472b-4e4b-8fd5-9e9fea189415
```

18. Create a static website on Amazon S3, publicly available (link1 or link2 - using a custom domain registered with Route 53). Post on the page your own photo, the name of the educational program (EPAM Cloud&DevOps Fundamentals Autumn 2022), the list of AWS services with which the student worked within the educational program or earlier and the full list with links of completed labs (based on tutorials or quiklabs). Provide the link to the website in your report and CV.

Link - <http://yakymov.site/>

← → C ▲ Не конфіденційний | yakymov.site

Anable Asure AWS Bash Database Data encoding DevOps Docker EPAM\_DevOps GIT

### Hi there 🙌, I'm Yevhen Yakymov



## EPAM Cloud&DevOps Fundamentals Autumn 2022

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**List of AWS services I have worked with:**

1. [Amazon Elastic Compute Cloud \(Amazon EC2\)](#)
2. [Amazon Simple Storage Service \(Amazon S3\)](#)
3. [Amazon Lightsail\(virtual private server\)](#)
4. [Amazon Relational Database Service \(Amazon RDS\)](#)
5. [AWS Lambda \(serverless\)](#)
6. [Amazon Virtual Private Cloud \(Amazon VPC\)](#)
7. [Amazon Route 53 \(Domain Name System\)](#)
8. [Amazon CloudFront \(content delivery network\)](#)
9. [AWS Identity and Access Management \(IAM\)](#)
10. [Amazon CloudWatch \(monitor AWS resources\)](#)