

Examen Practico

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Actividad 1. PEM nuevas

The screenshot shows the 'Create key pair' wizard in the AWS Management Console. The 'Name' field is set to 'angonzalez-padillaEXAM'. The 'Key pair type' is selected as 'RSA'. The 'Private key file format' is chosen as '.pem'. There are optional tags and a note about adding up to 50 more tags. At the bottom, there are 'Cancel' and 'Create key pair' buttons.

Actividad 2. Creación de la instancia EC2 Asignación de Keys

The screenshot shows the 'Key pair (login)' step in the EC2 instance creation wizard. The 'Key pair name - required' dropdown is set to 'angonzalez-padillaEXAM'. A 'Create new key pair' button is also visible.

Configuración de red

The screenshot shows the 'Network settings' section of the EC2 instance configuration. It includes a VPC selection (vpc-00f479057476a2db8), a subnet selection (subnet-0b2fbf6da06d9ba4b), and an auto-assign public IP option (Enable). Under 'Firewall (security groups)', a new security group is being created ('Create security group'). The security group name is 'ang-gonzalez-exam-sg' and the description is 'Sg creado para el examen'. In the 'Inbound Security Group Rules' section, a rule for port 22 (TCP) is listed: 'Security group rule 1 (TCP, 22, 181.59.3.163/52, ssh-angEXAM)'.

Creación de Security Group

Security group name - required
angel-gonzalez-exam-sg

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. Valid characters: a-z, A-Z, 0-9, spaces, and _; /@!#&?<>^\$*

Description - required | [Info](#)
Sg creado para el examen

Inbound Security Group Rules

▼ Security group rule 1 (TCP, 22, 181.59.3.163/32, ssh-angelEXAM)

Type	Protocol	Port range	Action
ssh	TCP	22	Remove
Source type	Name	Description - optional	
My IP	181.59.3.163/32	ssh-angelEXAM	

▼ Security group rule 2 (TCP, 80, 0.0.0.0/0)

Type	Protocol	Port range	Action
HTTP	TCP	80	Remove
Source type	Source	Description - optional	
Anywhere	0.0.0.0/0	e.g. SSH for admin desktop	

⚠ 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.

[Add security group rule](#)

► Advanced network configuration

Configuración de parametros avanzados

User data - optional | [Info](#)

Upload a file with your user data or enter it in the field.

```
#!/bin/bash
# Update system
dfn update -y
# Install required packages
dfn install -y httpd wget php-fpm php-mysql php-xml php-devel
php-mbstring mariadb105 unzip
# Enable and start Apache
systemctl enable httpd
systemctl start httpd
# Install web app
cd /var/www/html
if [ -f immersion-day-app-php7.zip ]; then
wget -O immersion-day-app-php7.zip
https://static.us-east-1.prod.workshops.aws/public/0cf8e0cc-9aa4-41b3-aa
e7-ea46d24b239e/assets/immersion-day-app-php7.zip
unzip immersion-day-app-php7.zip
fi
# Install AWS SDK
if [ -d /var/www/html/vendor ]; then
mkdir vendor
cd vendor
wget https://docs.aws.amazon.com/aws-sdk-php/v3/download/aws.zip
unzip aws.zip
fi
```

User data has already been base64 encoded

Instancia EC2 creada con éxito

Instance summary for i-08083666d9af03a84 (Angel-Gonzalez-EXAMEN) Info		Actions	
Updated less than a minute ago		Connect	Instance state
Instance ID	i-08083666d9af03a84	Private IPv4 address	Public IPv4 addresses
IPv6 address	-	54.80.3.62 open address	172.31.23.100
Hostname type	IP name: ip-172-51-23-100.ec2.internal	Instance state	Public DNS
Answer private resource DNS name	IPv4 (A)	Running	ec2-54-80-3-62.compute-1.amazonaws.com open address
Auto-assigned IP address	54.80.3.62 [Public IP]	Private IP DNS name (IPV4 only)	Elastic IP addresses
IAM role	-	ip-172-51-23-100.ec2.internal	AWS Compute Optimizer finding
IMDSv2	Required	Instance type	User: arnawsiam:55465447012:user/students/anggonpad@gmail.com is not a
Operator	-	t3.micro	authorized to perform: compute-optimizer:GetEnrollmentStatus on resource: * because no identity-based policy allows the compute-optimizer:GetEnrollmentStat
Subnet ID		us action	us action
subnet-0ed46236dc39c8c58		Retry	
Instance ARN		Auto Scaling Group name	-
arn:aws:ec2:us-east-1:654654478122:instance/i-08083666d9af03a84		Managed	false
Details Status and alarms Monitoring Security Networking Storage Tags			

Verificación con SSH

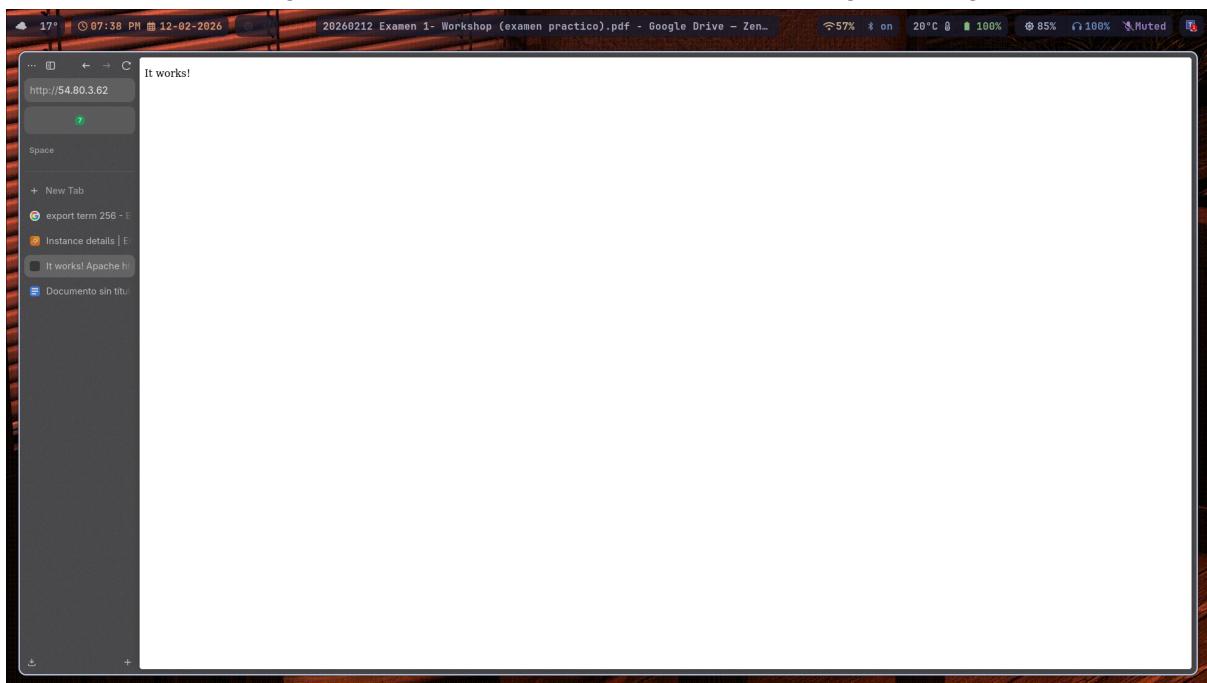
```
~ \ ~/ ① 19:34
> ssh -i "angonzalez-padillaEXAM.pem" ec2-user@ec2-54-80-3-62.compute-1.amazonaws.com
The authenticity of host 'ec2-54-80-3-62.compute-1.amazonaws.com (54.80.3.62)' can't be established.
ED25519 key fingerprint is: SHA256:77HyDZ6IKr/+VSddfjQit3V6y7a2o50TMlgm5q9A8Dc
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-54-80-3-62.compute-1.amazonaws.com' (ED25519) to the list of known hosts.
** WARNING: connection is not using a post-quantum key exchange algorithm.
** This session may be vulnerable to "store now, decrypt later" attacks.
** The server may need to be upgraded. See https://openssh.com/pq.html
'      #
~\_  ####_      Amazon Linux 2023
~~ \_\####\_
~~ \###|
~~ \#/ --- https://aws.amazon.com/linux/amazon-linux-2023
~~   V~' '→
~~~ / /
~~.~. / /
~/ ./
[mec2-user@ip-172-31-23-100 ~]$
```

Comprobamos que apache esté corriendo

```
[ec2-user@ip-172-31-23-100 ~]$ sudo systemctl status httpd
● httpd.service - The Apache HTTP Server
  Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; preset: disabled)
  Drop-In: /usr/lib/systemd/system/httpd.service.d
            └─php-fpm.conf
    Active: active (running) since Fri 2026-02-13 00:34:04 UTC; 3min 0s ago
      Docs: man:httpd.service(8)
   Main PID: 3654 (httpd)
     Status: "Total requests: 0; Idle/Busy workers 100/0;Requests/sec: 0; Bytes served/sec: 0 B/sec"
       Tasks: 177 (limit: 1067)
      Memory: 17.2M
        CPU: 341ms
      CGroup: /system.slice/httpd.service
              ├─3654 /usr/sbin/httpd -DFOREGROUND
              ├─3871 /usr/sbin/httpd -DFOREGROUND
              ├─3874 /usr/sbin/httpd -DFOREGROUND
              ├─3910 /usr/sbin/httpd -DFOREGROUND
              └─3932 /usr/sbin/httpd -DFOREGROUND

Feb 13 00:34:04 ip-172-31-23-100.ec2.internal systemd[1]: Starting httpd.service - The Apache HTTP Server...
Feb 13 00:34:04 ip-172-31-23-100.ec2.internal systemd[1]: Started httpd.service - The Apache HTTP Server.
Feb 13 00:34:04 ip-172-31-23-100.ec2.internal httpd[3654]: Server configured, listening on: port 80
[ec2-user@ip-172-31-23-100 ~]$
```

Verificamos que la página sea accesible públicamente sin embargo no cargo la web app



Se corrige descargando manualmente desde ssh

```
[ec2-user@ip-172-31-23-100 html]$ ls -l
total 84
drwxr-xr-x. 3 root root 16384 Feb 13 01:02 __MACOSX
-rw-r--r--. 1 root root   463 Jul 24 2013 db-update.php
-rw-r--r--. 1 root root   368 Sep 17 2012 get-cpu-load.php
-rw-r--r--. 1 root root  1420 Jun 22 2023 get-index-meta-data.php
-rw-r--r--. 1 root root 14135 Dec  3 17:31 immersion-day-app-php7.zip
-rw-r--r--. 1 root root   370 Dec 29 2021 index.php
-rw-r--r--. 1 root root   371 Apr 10 2013 load.php
-rw-r--r--. 1 root root   357 May  4 2021 menu.php
-rw-r--r--. 1 root root  543 Oct  2 2014 put-cpu-load.php
-rw-r--r--. 1 root root  134 Dec 29 2021 rds-initialize.php
-rw-r--r--. 1 root root  3515 Jan 11 2022 rds-read-data.php
-rw-r--r--. 1 root root 1257 Dec 29 2021 rds-write-config.php
-rw-r--r--. 1 root root 3192 Jun 22 2023 rds.conf.php
-rw-r--r--. 1 root root  346 Dec 29 2021 rds.php
drwxr-xr-x. 2 root root   29 Dec 29 2021 sql
-rw-r--r--. 1 root root  877 Sep  6 2012 style.css
drwxr-xr-x. 6 root root  186 Feb 13 01:03 vendor
[ec2-user@ip-172-31-23-100 html]$
```

Al comprobar ya funciona



Actividad 4. EBS con tags

Se crea el EBS en la AZ correcta (en mi instancia es la us-east-1c)

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 (gp3)

Size (GiB) [Info](#)
3
Min: 1 GiB, Max: 65536 GiB.

IOPS [Info](#)
3000
Min: 3000 IOPS, Max: 80000 IOPS.

Throughput (MiB/s) [Info](#)
125
Min: 125 MiB, Max: 2000 MiB. Baseline: 125 MiB/s.

Availability Zone [Info](#)
use1-az4 (us-east-1c)

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

Agregamos el tag para identificarlo

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	Value - optional
<input type="text" value="Q. Name"/>	<input type="text" value="Q. angel-gonzalezEXAMEN"/>

[Add new tag](#)

You can add up to 49 more tags.

Le hacemos el attach a mi instancia

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

Availability Zone
use1-az4 (us-east-1c)

Instance [Info](#)

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

Device name [Info](#)

Recommended device names for Linux: /dev/xvda for root volume. /dev/sdf through /dev/sdp for data volumes.

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

[Cancel](#) [Attach volume](#)

Revisamos que se encuentre el disco

```
[ec2-user@ip-172-31-23-100 ~]$ lsblk
NAME      MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
nvme0n1    259:0   0   8G  0 disk
└─nvme0n1p1 259:1   0   8G  0 part /
└─nvme0n1p127 259:2   0   1M  0 part
└─nvme0n1p128 259:3   0  10M  0 part /boot/efi
nvme1n1    259:4   0   3G  0 disk
[ec2-user@ip-172-31-23-100 ~]$
```

Actividad 5. Bucket S3

[Create bucket](#) [Info](#)

Buckets are containers for data stored in S3.

General configuration

AWS Region: US East (N. Virginia) us-east-1

Bucket type: [Info](#)

General purpose
Recommended for most use cases and access patterns. General purpose buckets are the original S3 bucket type. They allow a mix of storage classes that redundantly store objects across multiple Availability Zones.

Directory
Recommended for low-latency use cases. These buckets use only the S3 Express One Zone storage class, which provides faster processing of data within a single Availability Zone.

Bucket name: [Info](#) angel-gonzalez-padilla-EXAMEN-S3

Bucket names must be 3 to 63 characters and unique within the global namespace. Bucket names must also begin and end with a letter or number. Valid characters are a-z, 0-9, periods (.), and hyphens (-). [Learn more](#)

Copy settings from existing bucket - optional
Only the bucket settings in the following configuration are copied.
[Choose bucket](#)
Format: s3://bucket/prefix

Object Ownership [Info](#)

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.

Object Ownership

ACLs disabled (recommended)
All objects in this bucket are owned by this account. Access to this bucket and its objects is specified using only policies.

ACLs enabled
Objects in this bucket can be owned by other AWS accounts. Access to this bucket and its objects can be specified using ACLs.

Object Ownership
Bucket owner enforced

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

Asignamos tag

Tags - optional

You can use bucket tags to analyze, manage and specify permissions for a bucket. [Learn more](#)

You can use s3>ListTagsForResource, s3:TagResource, and s3:UntagResource APIs to manage tags on S3 general purpose buckets for access control in addition to cost allocation and resource organization. To ensure a seamless transition, please provide permissions to s3>ListTagsForResource, s3:TagResource, and s3:UntagResource actions. [Learn more](#)

Key	Value - optional
Name	AngelGonzalez-ExamenS3

[Add new tag](#)
You can add up to 40 more tags.

Creado con éxito

The screenshot shows the AWS S3 console interface. At the top, there's a navigation bar with tabs for Objects, Metadata, Properties, Permissions, Metrics, Management, and Access Points. The 'Objects' tab is selected. Below the navigation bar, there's a search bar with the placeholder 'Find objects by prefix'. A large button labeled 'Upload' is prominently displayed. The main area is titled 'Objects (0)' and contains a message stating 'No objects' and 'You don't have any objects in this bucket.' There are also buttons for Copy S3 URI, Copy URL, Download, Open, Delete, Actions, Create folder, and Upload.

Creamos un archivo .txt

The screenshot shows a terminal window with a dark background. At the top, there's a status bar with the text 'INSERT > file.txt [+]'. In the main terminal area, the command 'ls' is run, and the output shows two files: 'angonzalez-padillaEXAM.pem' and 'file.txt'. The terminal interface includes a header with icons for file operations and a timestamp '19:54'.

Lo subimos al bucket

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 SDKs or Amazon S3 REST API. [Learn more](#)

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

Files and folders (1 total, 63.0 B)

All files and folders in this table will be uploaded.

Find by name		Remove		Add files	Add folder
Name	Folder	Type	Size		
file.txt	-	text/plain	63.0 B	< 1 >	

Destination [Info](#)

Destination
[s3://angel-gonzalez-padilla-examen-s3](#)

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

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

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

[Cancel](#) [Upload](#)

Subido con éxito

Upload: status

Upload succeeded
For more information, see the [Files and folders](#) table.

[Close](#)

Summary

Destination	Succeeded	Failed
s3://angel-gonzalez-padilla-examen-s3	1 file, 63.0 B (100.00%)	0 files, 0 B (0%)

[Files and folders](#) [Configuration](#)

Files and folders (1 total, 63.0 B)

Find by name		Status		Error	
Name	Folder	Type	Size	Status	Error
file.txt	-	text/plain	63.0 B	Succeeded	-