



# ASSIGNMENT 1B

COS20019 – Cloud Computing Architecture

Student Name: Apostolos Lafazanis  
Student Number: 101360815

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URL Link of the Website:

[ec2-3-231-60-223.compute-1.amazonaws.com/COS20019/photoalbum/getphotos.php](http://ec2-3-231-60-223.compute-1.amazonaws.com/COS20019/photoalbum/getphotos.php)

## Overview

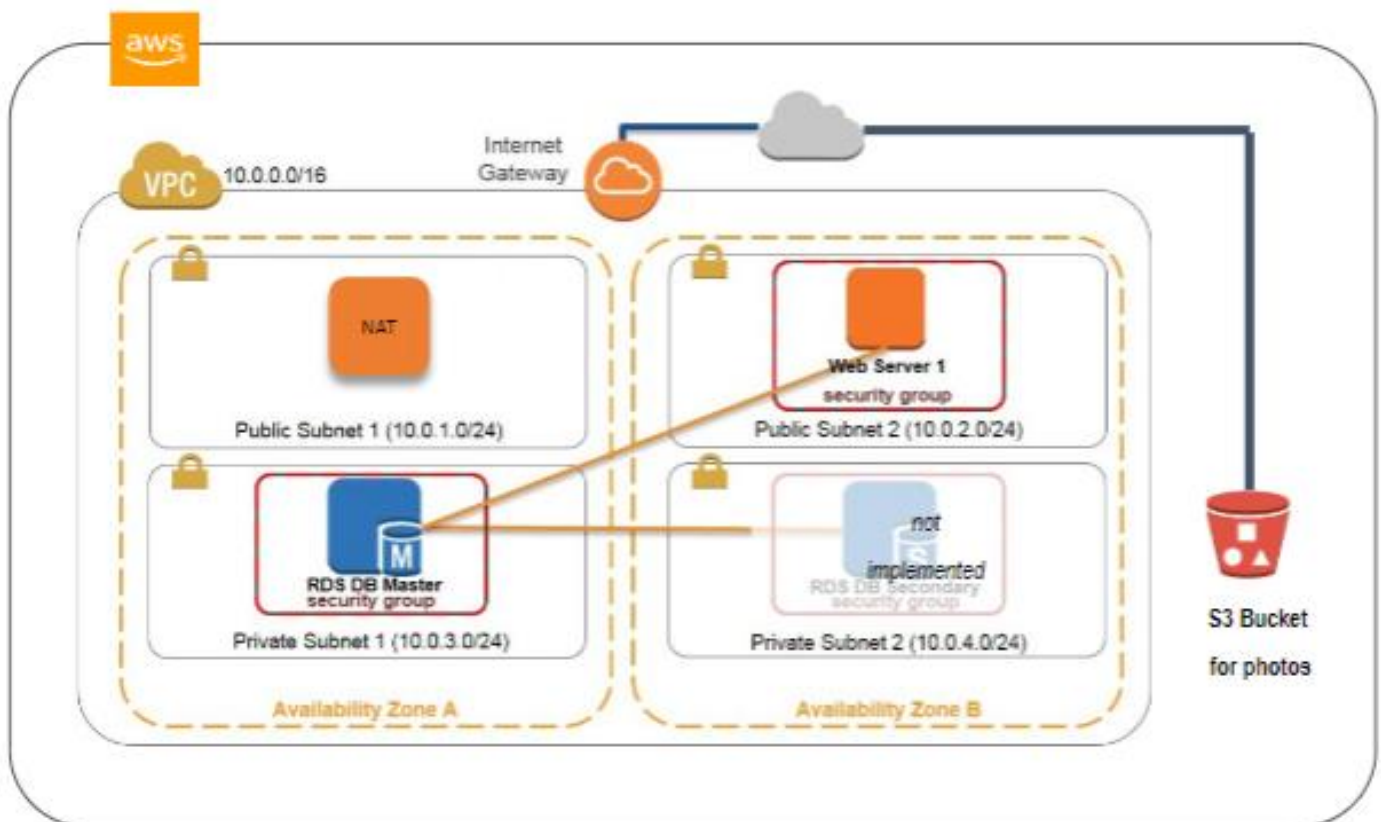
In assignment we had to:

- Create a Virtual Private Cloud with subnets, routing tables and security groups.
- Control access to and from our VPC via an Internet Gateway
- Create a web site in PHP that stores meta data information about photos stores in an AWS Bucket and allows the user to display those photos.
- Upload our PHP script on an EC2 instance on AWS so that we can test it to see if it works.

But first let us take everything step by step.

## 1) Virtual Private Network (VPC)

Our VCP needed to have the following design:



So, as we can see our subnet had to have 4 subnets (2 public and 2 private) spanning between 2 different availability zones. The Webserver had to

a) VPC Table

a) VPC Table

And here is an image of the 4 Subnets I created as well:

### b)Subnet Table

Resource Groups

vocstartsoft/user640352=1013...

N. Virginia

Support

Create subnetActions

Filter by tags and attributes or search by keyword

	Name	Subnet ID	State	VPC	IPv4 CIDR	Available IPv4
<input checked="" type="checkbox"/>	Private Subnet 1	subnet-053e9d7c8370a1ca8	available	vpc-04b22c45b59dea05f   ALafazanisVPC	10.0.3.0/24	250
<input type="checkbox"/>	Public Subnet 2	subnet-0541e671f11453c4a	available	vpc-04b22c45b59dea05f   ALafazanisVPC	10.0.2.0/24	250
<input type="checkbox"/>	Public Subnet 1	subnet-0a8e0a7b95450633a	available	vpc-04b22c45b59dea05f   ALafazanisVPC	10.0.1.0/24	250
<input type="checkbox"/>	Private Subnet 2	subnet-0d8d682f8d71d2240	available	vpc-04b22c45b59dea05f   ALafazanisVPC	10.0.4.0/24	251
<input type="checkbox"/>		subnet-1cab4943	available	vpc-a37b46d9	172.31.32.0/20	4090
<input type="checkbox"/>		subnet-a3fc4dee	available	vpc-a37b46d9	172.31.16.0/20	4091
<input type="checkbox"/>		subnet-c4facffa	available	vpc-a37b46d9	172.31.48.0/20	4091
<input type="checkbox"/>		subnet-cad539eb	available	vpc-a37b46d9	172.31.80.0/20	4090
<input type="checkbox"/>		subnet-eea14088	available	vpc-a37b46d9	172.31.0.0/20	4091
<input type="checkbox"/>		subnet-f27da5fc	available	vpc-a37b46d9	172.31.64.0/20	4091

Subnet: subnet-053e9d7c8370a1ca8

Description

Flow Logs

Route Table

Network ACL

Tags

Sharing

Add/Edit Tags

Key	Value	
Name	Private Subnet 1	Hide Column
StudentID	101360815	Show Column
StudentName	Apostolos Lafazanis	Show Column

### c) Private Table Routes Tab

### c) Private Table Routes Tab

#### d)Private Table's Subnet Associations Tab

Resource Groups

Create route table

Actions

Filter by tags and attributes or search by keyword

1 to 3 of 3

	Name	Route Table ID	Explicit subnet association	Edge associations	Main	VPC ID
<input type="checkbox"/>	Public Routing Table	rtb-03083d4a757d5fdf2	2 subnets	-	No	vpc-04b22c45b59dea05f   ALA...
<input checked="" type="checkbox"/>	Private Routing Table	rtb-0e55d29cf05591427	2 subnets	-	Yes	vpc-04b22c45b59dea05f   ALA...
<input type="checkbox"/>		rtb-1364dd6d	-	-	Yes	vpc-a37b46d9

Route Table: rtb-0e55d29cf05591427

Summary

Routes

Subnet Associations

Edge Associations

Route Propagation


Tags

Edit subnet associations


Subnet ID	IPv4 CIDR	IPv6 CIDR
subnet-053e9d7c8370a1ca8   Private Subnet 1	10.0.3.0/24	-
subnet-0d8d682f8d71d2240   Private Subnet 2	10.0.4.0/24	-




### e)Public Table Routes Tab



Create route table




Actions 



 Filter by tags and attributes or search by keyword

  1 to 3 of 3  

<input type="checkbox"/>	Name 	Route Table ID 	Explicit subnet association	Edge associations	Main	VPC ID
<input checked="" type="checkbox"/>	Public Routing Table	rtb-03083d4a757d5fdf2	2 subnets	-	No	<a href="#">vpc-04b22c45b59dea05f   ALafa</a>
<input type="checkbox"/>	Private Routing Table	rtb-0e55d29cf05591427	2 subnets	-	Yes	<a href="#">vpc-04b22c45b59dea05f   ALafa</a>
<input type="checkbox"/>		rtb-1364dd6d	-	-	Yes	<a href="#">vpc-a37b46d9</a>

Route Table: rtb-03083d4a757d5fdf2   

Summary

Routes

Subnet Associations

Edge Associations

Route Propagation

Tags

Edit routes

View 

All routes

Destination	Target	Status	Propagated
10.0.0.0/16	local	active	No
0.0.0.0/0	<a href="#">igw-0870bb5dc313fb958</a>	active	No



f)Public Table's Subnet Associations Tab

## Create route table

Actions ▾



🔍 Filter by tags and attributes or search by keyword

1 to 3 of 3

<input type="checkbox"/>	Name	Route Table ID	Explicit subnet associations	Edge	Main	VPC ID	Owner
<input checked="" type="checkbox"/>	Public Routing Table	rtb-03083d4a757d5fdf2	2 subnets	-	No	vpc-04b22c45b59dea05f   ALafaz...	70539
<input type="checkbox"/>	Private Routing Table	rtb-0e55d29cf05591427	2 subnets	-	Yes	vpc-04b22c45b59dea05f   ALafaz...	70539
<input type="checkbox"/>		rtb-1364dd6d	-	-	Yes	vpc-a37b46d9	70539

**Route Table:** rtb-03083d4a757d5fdf2



## Summary

## Routes

### Subnet Associations

## Edge Associations

## Route Propagation

## Tags

### Edit subnet associations

			1 to 2 of 2	
Subnet ID	IPv4 CIDR	IPv6 CIDR		
subnet-0541e671f11453c4a   Public Subnet 2	10.0.2.0/24	-		
subnet-0a8e0a7b95450633a   Public Subnet 1	10.0.1.0/24	-		

## 2) Web Instance (Web Server)

Part of the assignment was to create an instance on which we had to create our Linux Web Server so we can access the PHP pages we create. The instance had to be placed in Public Subnet 2 of our VPC and had to be installed with apache SQL and PHP. (The NAT instance is what I created instead of the default NAT Gateway of the wizard). A screenshot of the instance follows below:

### a) Instance Public IP Address and NAT Instance

The screenshot displays the AWS Management Console interface. At the top, there's a navigation bar with 'Resource Groups', a search bar, and user information. Below this, a toolbar contains buttons for 'Launch Instance', 'Connect', and 'Actions'. A search bar allows filtering by tags and attributes. A table lists several EC2 instances, with 'Assignment\_1b' selected. The instance details for 'Assignment\_1b' are shown below the table. The 'Description' tab is active, displaying various instance attributes. A red box highlights the 'Public DNS (IPv4)' and 'IPv4 Public IP' fields.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS
aws-cloud9-Testi...	i-073aa13dd7a4293...	t2.micro	us-east-1a	stopped		None	
Assignment1a	i-0d222829714e34b...	t2.micro	us-east-1c	stopped		None	ec2-3-221-4...
Assignment_1b	i-03770b90135befca7	t2.micro	us-east-1b	running	2/2 check...	None	ec2-3-231-6...
NAT Instance	i-0dc768d748a768618	t2.micro	us-east-1a	running	2/2 check...	None	ec2-54-208...

Instance: **i-03770b90135befca7 (Assignment\_1b)** Public DNS: **ec2-3-231-60-223.compute-1.amazonaws.com**

Description	Status Checks	Monitoring	Tags
Instance ID	i-03770b90135befca7		
Instance state	running		
Instance type	t2.micro		
Finding	You may not have permission to access AWS Compute Optimizer.		
Private DNS	ip-10-0-2-173.ec2.internal		
Private IPs	10.0.2.173		
Secondary private IPs			
VPC ID	vpc-04b22c45b59dea05f (ALafazanisVPC)		
Subnet ID	subnet-0541e671f11453c4a (Public Subnet 2)		
Network interfaces	eth0		
IAM role	-		
Key pair name	paulsSecondKeyPair		
Owner	705333667244		
Launch time	April 15, 2020 at 12:12:48 AM UTC+10 (107 hours)		
Public DNS (IPv4)	ec2-3-231-60-223.compute-1.amazonaws.com		
IPv4 Public IP	3.231.60.223		
IPv6 IPs	-		
Elastic IPs			
Availability zone	us-east-1b		
Security groups	web_tier_sg. view inbound rules. view outbound rules		
Scheduled events	No scheduled events		
AMI ID	amzn-ami-hvm-2018.03.0.20200318.2-x86_64-gp2 (ami-0915e09cc7ceee3ab)		
Platform details	-		
Usage operation	-		
Source/dest. check	True		
T2/T3 Unlimited	Disabled		
EBS-optimized	False		
Root device type	ebs		

And here is also a screenshot of the instance tags as well:

b)Instance Tags

Launch Instance ConnectActions

Filter by tags and attributes or search by keyword

<< < 1 to 4 of 4 > >>

<div></div>	Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS
<div></div>	aws-cloud9-Testi...	i-073aa13dd7a4293...	t2.micro	us-east-1a	<div></div> stopped		None	<div></div>
<div></div>	Assignment1a	i-0d222829714e34b...	t2.micro	us-east-1c	<div></div> stopped		None	<div></div>
<div></div>	Assignment_1b	i-03770b90135befca7	t2.micro	us-east-1b	<div></div> running	<div></div> 2/2 check...	None	<div></div> ec2-3-231-6
<div></div>	NAT Instance	i-0dc768d748a768618	t2.micro	us-east-1a	<div></div> running	<div></div> 2/2 check...	None	<div></div> ec2-54-208-

Instance: 

i-03770b90135befca7 (Assignment\_1b)

Public DNS: ec2-3-231-60-223.compute-1.amazonaws.com

DescriptionStatus ChecksMonitoringTags

Add/Edit Tags

Key	Value	
Name	Assignment_1b	<a href="#">Hide Column</a>
StudentID	101360815	<a href="#">Show Column</a>
StudentName	Apostolos Lafazanis	<a href="#">Show Column</a>

### c) NAT Instance table with all the relevant details

Resource Groups ▼ ★ 🔔 vocstartsoft/user640352=1013... ▼ N. Virginia ▼ Support ▼

[Launch Instance](#) ▼ [Connect](#) [Actions](#) ▼ 🔍 🔄 ⚙️

Filter by tags and attributes or search by keyword ? 1 to 4 of 4 > >>

<input type="checkbox"/>	Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public IP
<input type="checkbox"/>	aws-cloud9-Testi...	i-073aa13dd7a4293...	t2.micro	us-east-1a	stopped		None	
<input type="checkbox"/>	Assignment1a	i-0d222829714e34b...	t2.micro	us-east-1c	stopped		None	
<input type="checkbox"/>	Assignment_1b	i-03770b90135befca7	t2.micro	us-east-1b	running	✓ 2/2 check...	None	ec2-3-2...
<input checked="" type="checkbox"/>	NAT Instance	i-0dc768d748a768618	t2.micro	us-east-1a	running	✓ 2/2 check...	None	ec2-54-2...

Instance: **i-0dc768d748a768618 (NAT Instance)** Elastic IP: **54.208.61.102** 🔍 📄 📱

[Description](#) [Status Checks](#) [Monitoring](#) [Tags](#)

Instance ID: i-0dc768d748a768618

Instance state: running

Instance type: t2.micro

Finding: You may not have permission to access AWS Compute Optimizer.

Private DNS: ip-10-0-1-53.ec2.internal

Private IPs: 10.0.1.53

Secondary private IPs

VPC ID: vpc-04b22c45b59dea05f (ALafazanisVPC)

Subnet ID: subnet-0a8e0a7b95450633a (Public Subnet 1)

Network interfaces: eth0

IAM role: -

Key pair name: paulsSecondKeyPair

Owner: 705333667244

Launch time: April 14, 2020 at 10:50:49 AM UTC+10 (128 hours)

Public DNS (IPv4): ec2-54-208-61-102.compute-1.amazonaws.com

IPv4 Public IP: 54.208.61.102

IPv6 IPs: -

Elastic IPs: 54.208.61.102\*

Availability zone: us-east-1a

Security groups: [default](#), [view inbound rules](#), [view outbound rules](#)

Scheduled events: No scheduled events

AMI ID: amzn-ami-vpc-nat-hvm-2018.03.0.20181116-x86\_64-eb3 (ami-00a9d4a05375b2763)

Platform details: -

Usage operation: -

Source/dest. check: False

T2/T3 Unlimited: Disabled

EBS-optimized: False

Root device type: ebs

The assignment instruction urged us to create a NAT instance instead of a NAT default gateway because unlike the latter, the former is free of charge. So, following the VPC design I assigned the NAT instance to Public Subnet 1.

d) Web Server Security Group

d) Web Server Security Group

### 3)S3 Bucket

Part of the assignment was also the creation of a bucket in which we had to store a few photos and then access then display them to the user through the website. The link for every photo, which we use to access them is stored in the database so we can retrieve it whenever we have to. Here is a photo of all the photos in the bucket:

[a\)Bucket Files](#)

WS

Services ▾ Resource Groups ▾

🔔

vocstartsoft/user640352=1013... ▾

Global ▾

Supp

Amazon S3 > assignment1b-bucket

assignment1b-bucket

Overview

Properties

Permissions

Management

Access points

🔍 Type a prefix and press Enter to search. Press ESC to clear.

📶 Upload







+ Create folder

Download

Actions ▾

US East (N. Virginia) 🔁

Viewing 1 to 6

<input type="checkbox"/> Name ▾	Last modified ▾	Size ▾	Storage class ▾
<input type="checkbox"/>  dark_souls.jpg	Apr 19, 2020 12:05:23 PM GMT+1000	192.5 KB	Standard
<input type="checkbox"/>  ff13.jpg	Apr 15, 2020 4:12:30 PM GMT+1000	118.8 KB	Standard
<input type="checkbox"/>  gw2guardian.jpg	Apr 19, 2020 12:05:50 PM GMT+1000	513.9 KB	Standard
<input type="checkbox"/>  swirly_blue_abstract.jpg	Apr 19, 2020 12:06:05 PM GMT+1000	452.5 KB	Standard
<input type="checkbox"/>  the_light.jpg	Apr 19, 2020 12:06:16 PM GMT+1000	45.8 KB	Standard
<input type="checkbox"/>  undertale_photo.png	Apr 19, 2020 12:06:32 PM GMT+1000	28.7 KB	Standard

Viewing 1 to 6

In order to access the Bucket as a website though I had to create a Cloudfront distribution for the bucket which would give the bucket its own DNS name so we can access it. Here is a photo from the distribution detail page:

[b\)Distribution Page](#)

The screenshot shows the AWS CloudFront console interface. At the top, there's a navigation bar with 'Resource Groups', a search icon, a user profile 'vocstartsoft/user640352=1013...', and 'Global' and 'Support' links. Below this, the breadcrumb 'CloudFront Distributions > E3U2WBXC9VFQ8O' is visible. The main content area has several tabs: 'General', 'Origins and Origin Groups', 'Behaviors', 'Error Pages', 'Restrictions', 'Invalidations', and 'Tags'. The 'General' tab is active, and an 'Edit' button is located below the tabs. The distribution details are listed in a key-value format:

<b>Distribution ID</b>	E3U2WBXC9VFQ8O
<b>ARN</b>	arn:aws:cloudfront::705333667244:distribution/E3U2WBXC9VFQ8O
<b>Log Prefix</b>	-
<b>Delivery Method</b>	Web
<b>Cookie Logging</b>	Off
<b>Distribution Status</b>	Deployed
<b>Comment</b>	-
<b>Price Class</b>	Use All Edge Locations (Best Performance)
<b>AWS WAF Web ACL</b>	-
<b>State</b>	Enabled
<b>Alternate Domain Names (CNAMEs)</b>	-
<b>SSL Certificate</b>	Default CloudFront Certificate (*.cloudfront.net)
<b>Domain Name</b>	d1lewwq6jh4vmj.cloudfront.net
<b>Custom SSL Client Support</b>	-
<b>Security Policy</b>	TLSv1
<b>Supported HTTP Versions</b>	HTTP/2, HTTP/1.1, HTTP/1.0
<b>IPv6</b>	Enabled
<b>Default Root Object</b>	-
<b>Last Modified</b>	2020-04-19 12:25 UTC+10
<b>Log Bucket</b>	-

A red box highlights the 'Domain Name' field, and a red arrow points to it from the right.

## 4)RDS (Relational Database Structure)

The links of the photos in the S3 bucket we saw above had to be stored in a database on AWS. That database had to be in MySQL, type db.t2.micro, it shouldn't be publicly accessible and it should have a backup retention period of 0 days. Here is a screenshot of the database instance:

### a)Database instance

Resource Groups

🔔

vocstartsoft/user640352=1013...

N. Virginia

Support

RDS > Databases > assignmet1b-db

assignmet1b-db

Modify

Actions

Summary

DB identifier assignmet1b-db	CPU <div>1.31%</div>	Info Available	Class db.t2.micro
Role Instance	Current activity <div>0 Connections</div>	Engine MySQL Community	Region & AZ us-east-1a

Connectivity & security

Monitoring

Logs & events

Configuration

Maintenance & backups

Tags

Connectivity & security

<div>Endpoint &amp; port</div> <div>Endpoint assignmet1b-db.cun0793gtz8l.us-east-1.rds.amazonaws.com</div> <div>Port 3306</div>	<div>Networking</div> <div>Availability zone us-east-1a</div> <div>VPC ALafazanisVPC (vpc-04b22c45b59dea05f)</div> <div>Subnet group db subnet group</div> <div>Subnets subnet-0d8d682f8d71d2240 subnet-053e9d7c8370a1ca8</div>	<div>Security</div> <div>VPC security groups db_tier_sg (sg-051f3618b3acb816d) (active)</div> <div>Public accessibility No</div> <div>Certificate authority rds-ca-2019</div> <div>Certificate authority date Aug 23rd, 2024</div>
---	---	--

Security group rules (2)

🔄

🔍 Filter security group rules

< 1 > ⚙️

Security group	Type	Rule
db_tier_sg (sg-051f3618b3acb816d)	EC2 Security Group - Inbound	sg-0ff1b3bbb92e03c0e
db_tier_sg (sg-051f3618b3acb816d)	CIDR/IP - Outbound	0.0.0.0/0



b) Database Security Group

Resource Groups

EC2 > Security Groups > sg-051f3618b3acb816d - db\_tier\_sg

sg-051f3618b3acb816d - db\_tier\_sg

Delete security groupCopy to new security group

Details

Security group name	Security group ID	Description	VPC ID
db_tier_sg	sg-051f3618b3acb816d	Database Security Group	vpc-04b22c45b59dea05f
Owner	Inbound rules count	Outbound rules count	
705333667244	1 Permission entry	1 Permission entry	

Inbound rules

Outbound rules

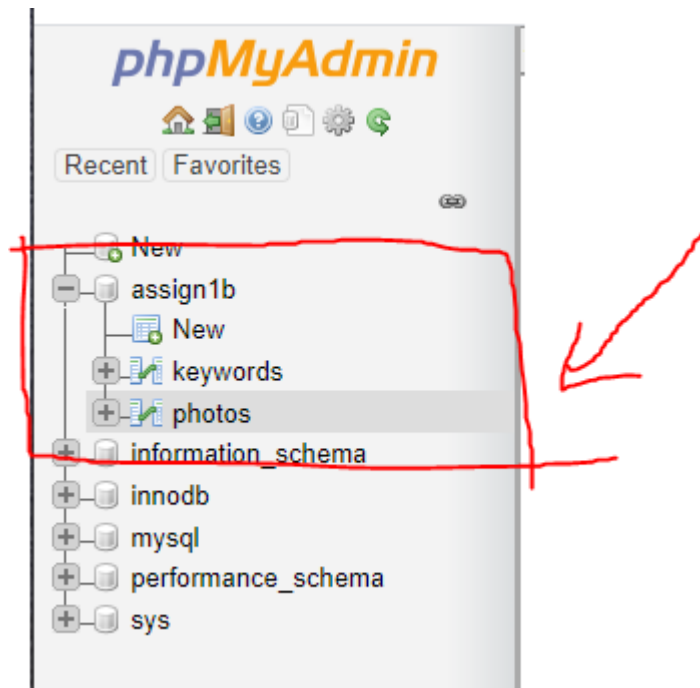
Tags

Inbound rules

Edit inbound rules

Type	Protocol	Port range	Source	Description - optional
MYSQL/Aurora	TCP	3306	sg-0ff1b3bbb92e03c0e (web_tier_sg)	-

However, since the database is not publicly accessible and can only be accessed using SQL calls, we had to set up phpMyAdmin in order to create and populate the tables. My database design has as follows:



The database has 2 table:

- First table is called “photos” and stores information about all the photos uploaded there including title, data uploaded and a photo URL.
- Second table is called “keywords” and contains all the keywords that are associated with the images on table “photos”. This table is a child table therefore has a foreign key value with its parent that ties them together.

### c)Database structure

Here is a screenshot of all the records in both tables:

☐ Show all
 |
 Number of rows:
 

25

 Filter rows:
 

Search this table

 Sort by key:
 

None

+ Options

←

→

▼

	photoID	title	description	dateOfPhoto	reference
<input type="checkbox"/> <div> <div>✎ Edit</div> <div>📄 Copy</div> <div>🗑 Delete</div> </div>	1	dark_souls.jpg	This is a Dark souls image.	2020-04-10	http://d1lewwq6jh4vmj.cloudfront.net/DarkSouls.jpg
<input type="checkbox"/> <div> <div>✎ Edit</div> <div>📄 Copy</div> <div>🗑 Delete</div> </div>	2	gw2guardian.jpg	This is a GW2 image.	2020-04-11	http://d1lewwq6jh4vmj.cloudfront.net/GW2Guardian.j...
<input type="checkbox"/> <div> <div>✎ Edit</div> <div>📄 Copy</div> <div>🗑 Delete</div> </div>	3	swirly_blue_abstract.jpg	This is an abstract image.	2020-04-12	http://d1lewwq6jh4vmj.cloudfront.net/Swirly_Blue_A...
<input type="checkbox"/> <div> <div>✎ Edit</div> <div>📄 Copy</div> <div>🗑 Delete</div> </div>	4	the_light.jpg	This is an image of a bright light.	2020-04-13	http://d1lewwq6jh4vmj.cloudfront.net/The_Light.jpg
<input type="checkbox"/> <div> <div>✎ Edit</div> <div>📄 Copy</div> <div>🗑 Delete</div> </div>	5	undertale_photo.jpg	This is an Undertale image.	2020-04-14	http://d1lewwq6jh4vmj.cloudfront.net/UndertalePhot...
<input type="checkbox"/> <div> <div>✎ Edit</div> <div>📄 Copy</div> <div>🗑 Delete</div> </div>	6	ff13.jpg	This is a Final Fantasy XIII image.	2020-04-10	http://d1lewwq6jh4vmj.cloudfront.net/ff13.jpg

⬆

☐ Check all
 With selected:
 

✎ Edit

📄 Copy

🗑 Delete

📄 Export

### d)“photos” table content

☐ Show all
 | Number of rows: 25
 | Filter rows:

+ Options

↔

⌵

keywordID

photoID

keyword

<input type="checkbox"/>	Edit	Copy	Delete	1	1	dark
<input type="checkbox"/>	Edit	Copy	Delete	2	1	souls
<input type="checkbox"/>	Edit	Copy	Delete	3	1	warrior
<input type="checkbox"/>	Edit	Copy	Delete	4	1	sword
<input type="checkbox"/>	Edit	Copy	Delete	5	2	gaurdian
<input type="checkbox"/>	Edit	Copy	Delete	6	2	guild
<input type="checkbox"/>	Edit	Copy	Delete	7	2	wars
<input type="checkbox"/>	Edit	Copy	Delete	8	3	abstract
<input type="checkbox"/>	Edit	Copy	Delete	9	3	swirly
<input type="checkbox"/>	Edit	Copy	Delete	10	3	blue
<input type="checkbox"/>	Edit	Copy	Delete	11	4	light
<input type="checkbox"/>	Edit	Copy	Delete	12	5	undertale
<input type="checkbox"/>	Edit	Copy	Delete	13	6	ff13
<input type="checkbox"/>	Edit	Copy	Delete	14	6	final_fanatasy_XII
<input type="checkbox"/>	Edit	Copy	Delete	15	6	warrior
<input type="checkbox"/>	Edit	Copy	Delete	16	1	blue
<input type="checkbox"/>	Edit	Copy	Delete	17	2	blue

⬆

☐ Check all

With selected:

Edit

Copy

Delete

Export

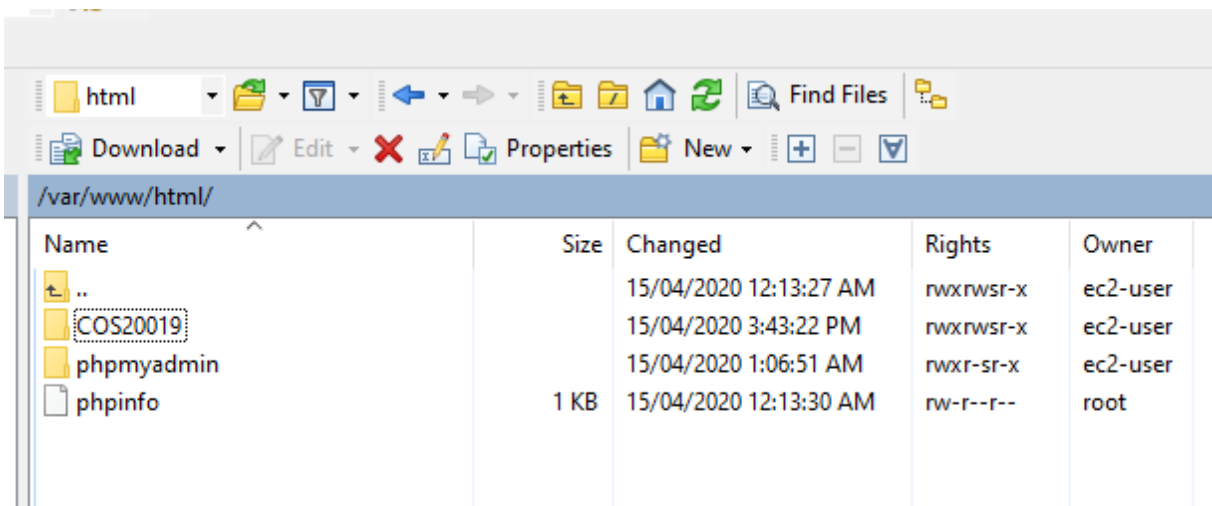
[e\)“keywords” Database Table Content](#)

## 5) Web Server Files in WinSCP

And finally, we had to write our own PHP scripts that would allow us to search for one or more of those images stored in the S3 storage and display their details that were stored in the database based on 3 fields:

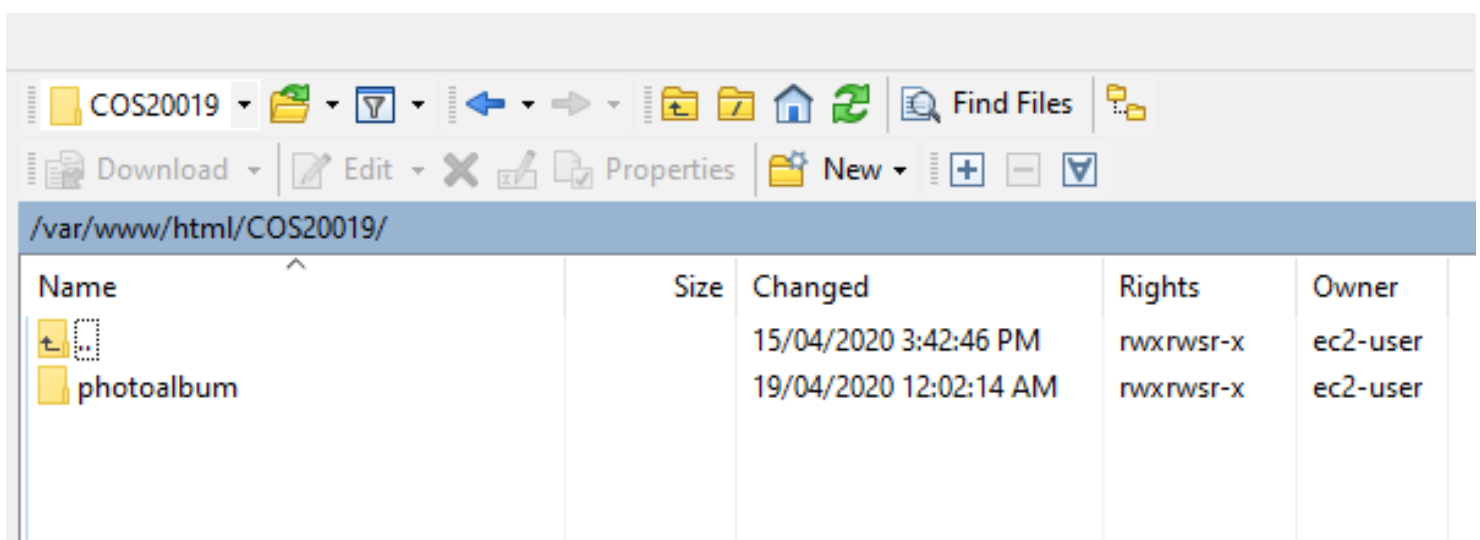
- Title
- Date of the photo
- Keywords

All the files are stored in the server using WinSCP in a specific directory structure which is:



Name	Size	Changed	Rights	Owner
..		15/04/2020 12:13:27 AM	rw-rw-r--	ec2-user
COS20019		15/04/2020 3:43:22 PM	rw-rw-r--	ec2-user
phpmyadmin		15/04/2020 1:06:51 AM	rw-r--r--	ec2-user
phpinfo	1 KB	15/04/2020 12:13:30 AM	rw-r--r--	root

a) "/var/www/html/" directory



Name	Size	Changed	Rights	Owner
..		15/04/2020 3:42:46 PM	rw-rw-r--	ec2-user
photoalbum		19/04/2020 12:02:14 AM	rw-rw-r--	ec2-user

b) "/var/www/html/COS20019/" directory

Name	Size	Changed	Rights	Owner
^		15/04/2020 3:43:22 PM	rw-rwsr-x	ec2-user
getphotos.php	2 KB	19/04/2020 12:37:55 PM	rw-rw-r--	ec2-user
getPhotosProcess.php	22 KB	19/04/2020 12:21:35 AM	rw-rw-r--	ec2-user
showAllPhotos.php	3 KB	19/04/2020 12:12:09 AM	rw-rw-r--	ec2-user
upload.php	2 KB	15/04/2020 6:47:43 PM	rw-rw-r--	ec2-user

c)“/var/www/htm/COS20019/photoalbum” directory

So, the way I decided to make the scripts work is that the user can search for a photo by filling in all or some or just one of the above fields. The title field compared the name the user provided with the one in the database and if THEY DON’T MATCH it will not show the photo in the result page. Like for instance if the user types in the word “cat” in the title field, the result will not include a photo in the database that is called “cat heaven” so **the titles have to be identical.**

Then the user can search photos depending on what date they were uploaded. In the Search form on getphotos.php, I included an extra field called “Time Frame” which lets the user specify the time period the search will be. If you don’t specify anything the website will autocatically assume that you want to just search for photos uploaded **ONLY** on the day you specified.

And the keywords allow the user to search for any word that might be related to the images. All of those words exist in the “keyword” table in the database.

## 6)Website Pages

*Here are the screenshots of the different parts of my website pages:*

← → ↻ ⓘ Not secure | ec2-3-231-60-223.compute-1.amazonaws.com/COS20019/photoalbum/upload.php

Apps YouTube Facebook Netflix Current Students | S... Twitch Burndown for Trello... I'm Learning |

# Photo Uploader

**Student ID: 101360815**

**Name: Apostolos Lafazanis**

---

Photo title:

Select a photo:

Description:

Date:

Keyword(separated by a semicolon, e.g. keyword1;keyword2; etc.):

[Search Photos](#)

[a\) "upload.php" File webpage](#)

This is the photo uploader page we created on Assignment 1A and in this assignment I have not added any functionality to it as it was requested in the assignment specification (This is to be done in Assignment 2)

# Photo Search Page

Welcome to my Photo Search Page! Here you can search for any photos you are interested in based on a title or date or keywords that are related to the photos. You can leave the fields that you are not interested in blank.

Please type in your searching critiria down below:

Title:

Date uploaded:

Time Frame(Specify whether you want to search for photos uploaded after or before your provided date):

☐ Before ☐ After ☐ On that date

Keyword(separated by a semicolon, e.g. keyword1;keyword2; etc.):

[Upload Photo Page](#)

[Display all photos](#)

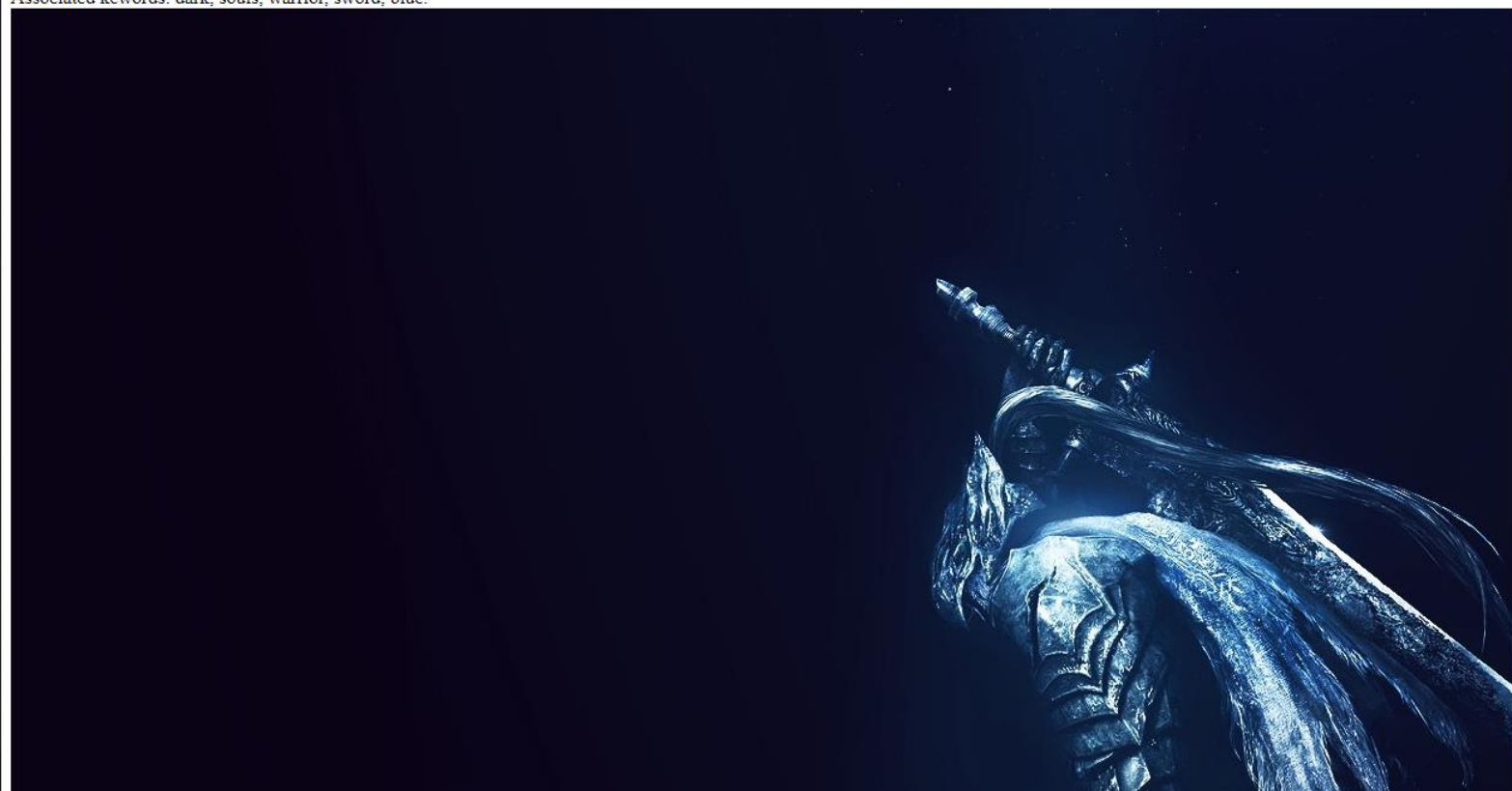
[b\)“getphotos.php” file Website](#)

This is the search Page website that allows the user to look for photos in the database. You can see that there are 4 input fields, a search button and 2 links that redirect to other parts of the website.

## Photo Album

Here are all the photos in the database:

Title: dark\_souls.jpg  
Description: This is a Dark souls image.  
Date uploaded: 2020-04-10  
Associated keywords: dark, souls, warrior, sword, blue.



[c\)“showAllPhotos.php” File Website](#)

This in an extra PHP file I decide to add called “showAllPhotos.php” which does exactly what it says meaning it displays all the photos that are in the database to the user in case they want to take a look at all of them.



## Photo Searching Result Page

Your searching critiria were:

- Keywords = Blue, Dark, Souls.

**Here are your search results:**

Number of result: 3

Title: dark\_souls.jpg

Description: This is a Dark souls image.

Date uploaded: 2020-04-10

Associated keywords: dark, souls, warrior, sword, blue.



[d\)“getPhotosProcess.php” File Webpage](#)

So after the user types in the details of the photo(s) they want to search for, the website will redirect them to the “getPhotosProcess.php” file which will process the inputs and compare them with the ones in the database and if we got a match it will display them to the screen. Also, I made sure to print out the total number of matches found as well as the user’s searching criteria

In this example I decided to look for photos in the database that were related with 3 keywords and I got 3 matches. The rest of the results were further down the page but because of the scale of the photos I couldn’t fit them all in the screenshot.