

Cloud computing

Assignment 5 - Bonus task

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2 options to install phpmyadmin on AWS:

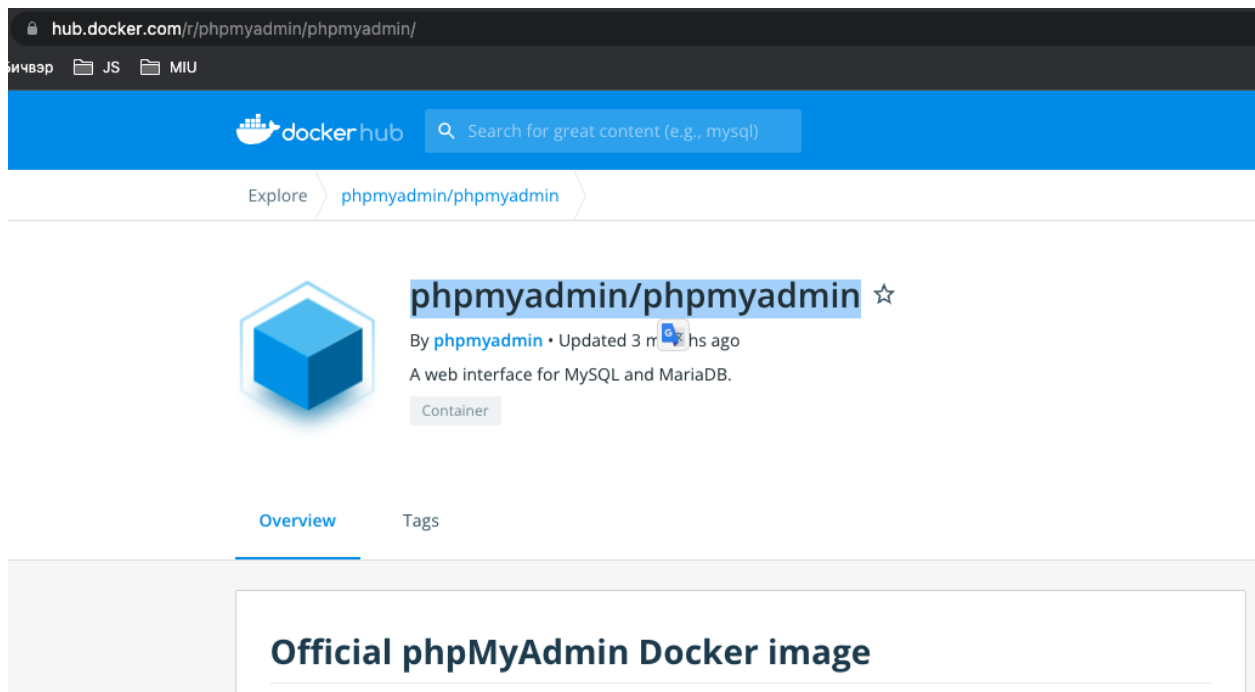
1. Deploy PHPMyAdmin docker in ECS
2. Run PHPMyAdmin docker on EC2

Deploy PHPMyAdmin docker in ECS

1. Create Task definitions

1a. Image URI = phpmyadmin/phpmyadmin

1b. Environment variables add PMA_HOST = RDS endpoint



us-east-1.console.aws.amazon.com/ecs/v2/task-definitions/create?region=us-east-1

Localhost

Бичвэр

JS

MIU

Services

Search for services, features, blogs, docs, and more

[Option+S]

Resource Groups & Tag Editor

Route 53

S3

RDS

EC2

VPC

DynamoDB

IAM

Step 1

Configure task definition and containers

Step 2

Configure environment, storage, monitoring, and tags

Step 3

Review and create

Configure task definition and containers

Task definition configuration

Task definition family

Info

Specify a unique task definition family name.

rds-phpmyadmin

Up to 255 letters (uppercase and lowercase), numbers, hyphens, and underscores are allowed.

Container - 1

Info

Essential container

Remove

Container details

Specify a name, container image, and whether the container should be marked as essential. Each task definition must have at least one essential container.

Name

Image URI

Essential container

rds-phpmyadmin

phpmyadmin/phpmyadmin

Yes

Port mappings

Info

Add port mappings to allow the container to access ports on the host to send or receive traffic.

Container port

Protocol

80

TCP

Remove

Add more port mappings

Environment variables - optional

Info

Add individually

Add a key-value pair to specify an environment variable.

Key

Value

PMA_HOST

my-db.cluster-cay1bj6iudeu.

Remove

Add

Add from file

Add environment variables in bulk by providing an environment file hosted on Amazon S3.

Add

You can add 10 more environment files.

2. Create Security group for ECS Cluster

The screenshot shows the AWS IAM console 'Security Groups' page. The filter 'Security group name: phpmyadmin-sg' is applied. The table lists one security group: 'phpmyadmin-sg' with ID 'sg-017df03a014cddcb0' and VPC ID 'vpc-069a15f3a05123696'. Below the table, the 'Inbound rules' section shows one rule: 'sgr-0e671437324915...' allowing HTTP traffic on port 80 from source '0.0.0.0/0'.

Name	Security group ID	Security group name	VPC ID	Description	Owner	Inbound rules count	Outbound rules count
-	sg-017df03a014cddcb0	phpmyadmin-sg	vpc-069a15f3a05123696	phpmyadmin-sg	261039457655	1 Permission entry	1 Permission entry

Name	Security group rule...	IP version	Type	Protocol	Port range	Source	Description
-	sgr-0e671437324915...	IPv4	HTTP	TCP	80	0.0.0.0/0	-

2a. RDS security group allow 3306 from ECS Cluster security group

The screenshot shows the AWS IAM console 'Security Groups' page. The filter 'Security group name: my-rds-sg' is applied. The table lists one security group: 'my-rds-sg' with ID 'sg-04fadf7fe46f678aa' and VPC ID 'vpc-069a15f3a05123696'. Below the table, the 'Inbound rules' section shows two rules: 'sgr-0d8b5e0574f3509ec' and 'sgr-0c2dcc0476b286b77', both allowing MySQL/Aurora traffic on port 3306 from sources 'sg-017df03a014cddcb...' and 'sg-03cd655c36691c2e...' respectively.

Name	Security group ID	Security group name	VPC ID	Description	Owner	Inbound rules count	Outbound rules count
-	sg-04fadf7fe46f678aa	my-rds-sg	vpc-069a15f3a05123696	My RDS security group	261039457655	2 Permission entries	1 Permission entry

Name	Security group rule...	IP version	Type	Protocol	Port range	Source	Description
-	sgr-0d8b5e0574f3509ec	-	MySQL/Aurora	TCP	3306	sg-017df03a014cddcb...	-
-	sgr-0c2dcc0476b286b77	-	MySQL/Aurora	TCP	3306	sg-03cd655c36691c2e...	-

3. Create Cluster

3a. VPC choose public subnets

Amazon Elastic Container Service > Clusters > Create

🔔 Introducing the new ECS console experience!
We have redesigned the cluster experience. The actions for updating clusters, deleting cluster and using Spot instances for your Auto Scaling group allocation strategy are available with the previous console while we complete the migration. To use these actions, [use the classic console](#).

Create cluster

An Amazon ECS cluster is a logical grouping of tasks or services.

Cluster configuration

Cluster name
PHPMYAdminCluster
There can be a maximum of 255 characters. The valid characters are letters (uppercase and lowercase), numbers, hyphens, and underscores.

▼ Networking [Info](#)

By default tasks and services run in the default subnets for your default VPC. To use the non-default VPC, specify the VPC and subnets.

VPC
Use a VPC with public and private subnets. By default, VPCs are created for your AWS account. To create a new VPC, go to the [VPC Console](#).
vpc-069a15f3a05123696
my-vpc

Subnets - optional
Select the subnets where your tasks run. We recommend that you use three subnets for production.
Choose subnets
subnet-01703612f2724c3ee public | us-east-1c | public-subnet-1c
subnet-092bcd4aa53290975 public | us-east-1a | public-subnet-1a
subnet-0158df3f4517aea7e public | us-east-1b | public-subnet-1b

▼ Infrastructure [Info](#) Serverless

Your cluster is automatically configured for AWS Fargate (serverless) with two capacity providers. Add Amazon EC2 instances, or external instances using ECS Anywhere.

☒ AWS Fargate (serverless)
Pay as you go. Use if you have tiny, batch, or burst workloads or for zero maintenance overhead. The cluster has Fargate and Fargate Spot capacity providers by default.

☐ Amazon EC2 Instances
Manual configurations. Use for large workloads with consistent resource demands.

☐ External instances using ECS Anywhere
Manual configurations. Use to add data center compute.

► Monitoring - optional [Info](#)

Container Insights is off by default. When you use Container Insights, there is a cost associated with it.

► Tags - optional [Info](#)

Tags help you to identify and organize your clusters.

Cancel Create

4. Deploy new cluster service

4a. Family = created task definition

4b. Security group = Security group for ECS Cluster

Deploy [info](#)

Environment

Existing cluster
Select an existing cluster. To create a new cluster, go to [Clusters](#).

PHPMyAdminCluster2

[Configure configurations \[advanced\]](#)

Deployment configuration

Application type [info](#)
Specify what type of application you want to run.

☒ **Service**
Launch a group of tasks handling a long-running computing work that can be stopped and restarted. For example, a web application.

☐ **Task**
Launch a standalone task that runs and terminates. For example, a batch job.

Task definition
Select an existing task definition. To create a new task definition, go to [Task definitions](#).

☐ **Specify revision manually**
Manually input revision instead of choosing from the 100 most recent revisions for the selected task definition family.

Family

Revision

phpmyadmin

1

Service name
Assign a unique name for this service.

phpmyadmin

Desired tasks
Specify the number of tasks to launch.

1

[Deployment options](#)

[Load balancing - optional](#)

Networking

VPC [info](#)
Choose the Virtual Private Cloud (VPC) to use.

vpc-068a15f3a05123456
my-vpc

Subnets
Choose the subnets within the VPC that the task scheduler should consider for placement.

Choose subnets

subnet-013041272704c3ee
my-main-1a (public subnet-1a)

subnet-0d3bdeaa53d99975
my-main-1a (public subnet-1a)

subnet-016d0f56517aa27e
my-main-1a (public subnet-1a)

Security group [info](#)
Choose an existing security group or create a new one.

☒ **Use an existing security group**

☐ **Create a new security group**

Security group name
Choose an existing security group.

sg-017d93a016dddb6
phpmyadmin-sg

Public IP [info](#)
Choose whether to auto-assign a public IP to the task's elastic network interface (ENI).

☒ **Enabled**

[Tags - optional](#) [info](#)
Tags help you to identify and organize your clusters.

Cancel

Deploy

5. Check phpmyadmin

5a. Cluster service created and running

us-east-1.console.aws.amazon.com/ecs/v2/clusters/PHPMyAdminCluster2/services?region=us-east-1

Services Search for services, features, blogs, docs, and more [Option+S]

phpmyadmin has been deployed successfully.

Amazon Elastic Container Service > Clusters > PHPMyAdminCluster2 > Services

PHPMyAdminCluster2

arn:aws:ecs:us-east-1:261039457655:cluster/PHPMyAdminCluster2

Edit cluster Delete cluster

Cluster overview

Services	Tasks
Draining -	Pending -
Active 1	Running 1

Services Tasks Infrastructure Metrics Tags

Services (1)

Filter services by value

Service name	ARN	Status	Deployments and tasks	Task definition	Revision	Launch type
phpmyadmin	arn:aws:ecs...	Active	1/1 Tasks running	rds-phpmyadmin	1	-

5b. Cluster task created and running

Services Search for services, features, blogs, docs, and more [Option+S]

ice Groups & Tag Editor Route 53 S3 RDS EC2 VPC DynamoDB IAM

Amazon Elastic Container Service > Clusters > PHPMyAdminCluster2 > Tasks > caf8c9fce4d44959b205dd5464fbc111 > Configuration

caf8c9fce4d44959b205dd5464fbc111 Stop

arn:aws:ecs:us-east-1:261039457655:task/PHPMyAdminCluster2/caf8c9fce4d44959b205dd5464fbc111

Configuration Logs Networking Tags

Status

Last status Running	Desired status Running	Started at 5/3/2022, 06:36:22 UTC	Created at 5/3/2022, 06:35:51 UTC
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Configuration

Operating system/Architecture Linux/X86_64	Capacity provider FARGATE	ENI ID eni-007099f696e4935ad	Public IP 35.172.33.139 open address
CPU Memory 1 vCPU 3 GB	Launch type FARGATE	Network mode awsvpc	Private IP 10.0.1.215
Platform version 1.4.0	Task definition rds-phpmyadmin:1	Subnet ID subnet-0158df3f4517aea7e	MAC address 02:81:e7:9e:35:39

Containers (1)

Container name	Container runtime ID	Image URI	Image Digest	Status	Health status	CPU	Memory hard/soft limit
rds-phpmyadmin	caf8c9fce4d44959b205dd...	phpmyadmin/phpmyadmin		Running	Unknown	0	- / -

phpMyAdmin

Not Secure | 35.172.33.139/index.php?route=/
Бичвэр JS MIU


Welcome to phpMyAdmin

Language

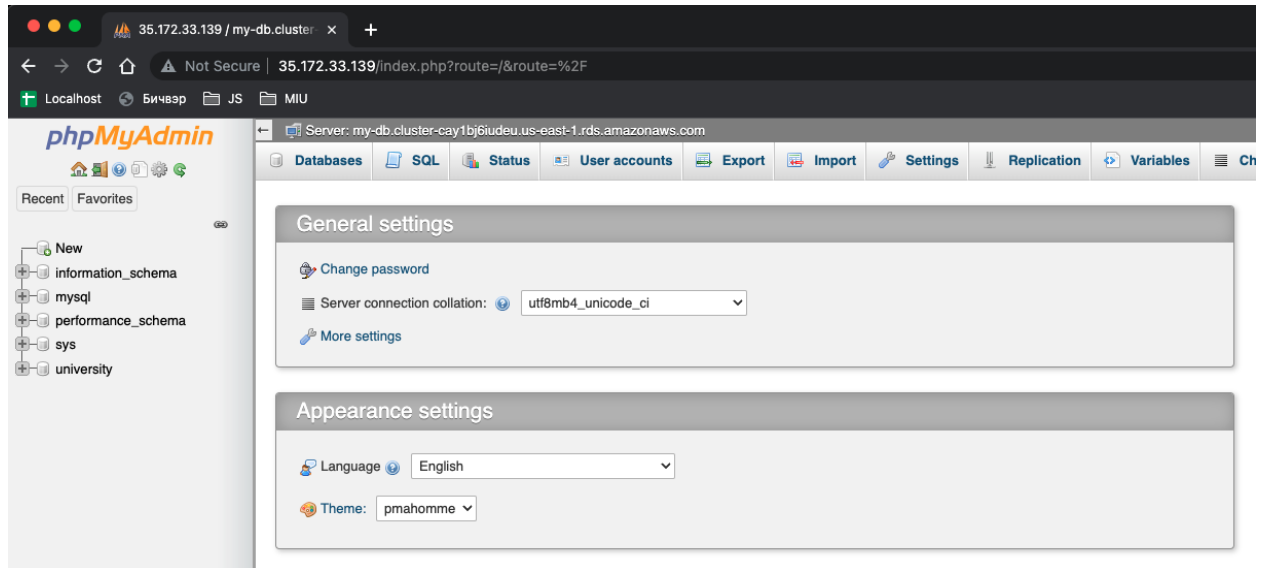
English

Log in

Username: admin

Password:

Go



Run PHPMyAdmin on EC2

1. Install docker on EC2

```
sudo yum install docker -y
```

```
[ec2-user@ip-10-0-0-66 ~]$ sudo yum install docker
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Resolving Dependencies
--> Running transaction check
--> Package docker.x86_64 0:20.10.13-2.amzn2 will be installed
```

2. Start docker

```
sudo systemctl start docker.service
```

```
[ec2-user@ip-10-0-0-66 ~]$ sudo systemctl start docker.service
```

3. Pull phpmyadmin docker image

```
docker pull phpmyadmin/phpmyadmin
```



```
[ec2-user@ip-10-0-0-66 ~]$ sudo docker pull phpmyadmin/phpmyadmin
Using default tag: latest
latest: Pulling from phpmyadmin/phpmyadmin
5eb5b503b376: Pull complete
8b1ad84cf101: Pull complete
38c937dadeb7: Pull complete
6a2f1dc96e59: Pull complete
f8c3f82c39d4: Pull complete
90fc6462bd8e: Pull complete
c670d99116c9: Pull complete
268554d6fe96: Pull complete
6c29fa0d4492: Pull complete
73e23c50a259: Pull complete
81ac13c96fc2: Pull complete
b60a3e623949: Pull complete
dac5dd67fd59: Pull complete
fd46866d9c36: Pull complete
443a80ef4c80: Pull complete
5e6049224f95: Pull complete
213e66cdff56: Pull complete
9b9b44731108: Pull complete
Digest: sha256:1d3f6ec798a9faa201ada6678797f399202928e677dfccbb698ef0b511c798b0
Status: Downloaded newer image for phpmyadmin/phpmyadmin:latest
docker.io/phpmyadmin/phpmyadmin:latest
```

4. Run docker container

```
docker run --name aws-phpmyadmin -d -e
PMA_HOST=my-db.cluster-cay1bj6iudeu.us-east-1.rds.amazonaws.com -p 80:80
phpmyadmin/phpmyadmin
```

```
[ec2-user@ip-10-0-0-66 ~]$ sudo docker run --name aws-phpmyadmin -d -e PMA_HOST=my-db.cluster-cay1bj6iudeu.us-east-1.rds.amazonaws.com -p 80:80 phpmyadmin/phpmyadmin
059632974fb371414dfcc15a4436131e3ac2b4c7168f192df66d21cb22c2d6b2
[ec2-user@ip-10-0-0-66 ~]$
```

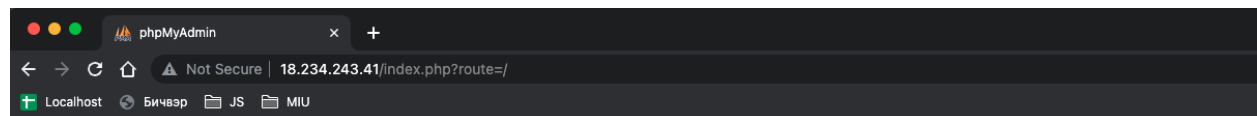
5. Enable 80 port on EC2 security group

The screenshot shows the AWS Management Console for the 'mini-server-sg' security group. The 'Inbound rules' tab is active, displaying a table with one rule:

Name	Security group rule...	IP version	Type	Protocol	Port range	Source	Description
-	sgr-03d801f7fe55cd615	IPv4	HTTP	TCP	80	0.0.0.0/0	-

6. Check on PHPMyAdmin 80 port

```
[ec2-user@ip-10-0-0-66 ~]$ curl http://169.254.169.254/latest/meta-data/public-ipv4
18.234.243.41[ec2-user@ip-10-0-0-66 ~]$
```



Language: English

Log in

Username: admin

Password:

Go









Structure

18.234.243.41 / my-db.cluster x +

← → ↻ 🏠 ⚠ Not Secure | 18.234.243.41/index.php?route=/%2F

🌐 Localhost 🌐 Бичвэр 📁 JS 📁 MIU

phpMyAdmin

Recent Favorites

New

+

 information_schema

+

 mysql

+

performance_schema

+

 sys


+


 university


Server: my-db.cluster-cay1bj6iudeu.us-east-1.rds.amazonaws.com

Databases SQL Status User accounts Export Import



General settings


 [Change password](#)

☰ Server connection collation:  utf8mb4_unicode_ci ▼

 [More settings](#)

Appearance settings

 Language  English ▼

 Theme: pmahomme ▼