

AWS ECS: How to deploy .NET 7 Web API

1. Create a Web API .NET 7 in Visual Studio 2022 Community Edition

Run Visual Studio 2022 and create a new Web API

Visual Studio 2022

Open recent

- 🔍 ...
- ◀ Today
 -  **WebAPI.sln** 12/13/2023 3:57 PM
C:\AWS ECS .NET 8 Web API\WebAPIdotNet7\WebAPI
 -  **WebAPIdotNET8.sln** 12/13/2023 11:56 AM
C:\dotNet 8 Web API\WebAPIdotNET8
- ◀ Yesterday
 -  **WebAPIdotNet7.sln** 12/12/2023 7:17 PM
C:\Azure .NET 7 API\WebAPIdotNet7
 -  **WebAPI.sln** 12/12/2023 6:34 PM
C:\Azure .NET 8 API\WebAPI
 -  **FleetManagementInputAPI.sln** 12/12/2023 4:37 PM
D:\3. api-swagger
 -  **WebAPIdotNet8.sln** 12/12/2023 1:53 PM

Get started

-  **Clone a repository**
Get code from an online repository like GitHub or Azure DevOps
-  **Open a project or solution**
Open a local Visual Studio project or .sln file
-  **Open a local folder**
Navigate and edit code within any folder
-  **Create a new project**
Choose a project template with code scaffolding to get started

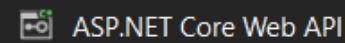
[Continue without code →](#)

Select the Web API .NET Core template

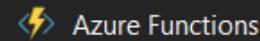
Create a new project



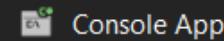
Recent project templates



C#



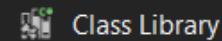
C#



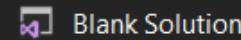
C#



C#



C#



Core Razor Pages content

C#

Linux

macOS

Windows

Cloud

Service

Web



ASP.NET Core Web API

A project template for creating a RESTful Web API using ASP.NET Core controllers or minimal APIs, with optional support for OpenAPI and authentication.

C#

Linux

macOS

Windows

API

Cloud

Service

Web

Web API



ASP.NET Core Web API (native AOT)

A project template for creating a RESTful Web API using ASP.NET Core minimal APIs published as native AOT.

C#

Linux

macOS

Windows

API

Cloud

Service

Web

Web API



Class Library

A project for creating a class library that targets .NET or .NET Standard

C#

Android

Linux

macOS

Windows

Library



ASP.NET Core Empty

Back

Next

We set the solution name and the location

Configure your new project

ASP.NET Core Web API

C#

Linux

macOS

Windows

API

Cloud

Service

Web

Web API

Project name

WebAPI

Location

C:\dotNET7 Web API\

...

Solution name ⓘ

WebAPI

 Place solution and project in the same directory

Project will be created in "C:\dotNET7 Web API\WebAPI\"

Back

Next

We select the framework .NET 7, we Enable Docker(for automatically create the dockerfile), we Enable OpenAPI and Use controllers

Additional information

ASP.NET Core Web API

C#

Linux

macOS

Windows

API

Cloud

Service

Web

Web API

Framework i

.NET 7.0 (Standard Term Support)

Authentication type i

None

Configure for HTTPS i

Enable Docker i

Docker OS i

Linux

Enable OpenAPI support i

Do not use top-level statements i

Use controllers i

Back

Create

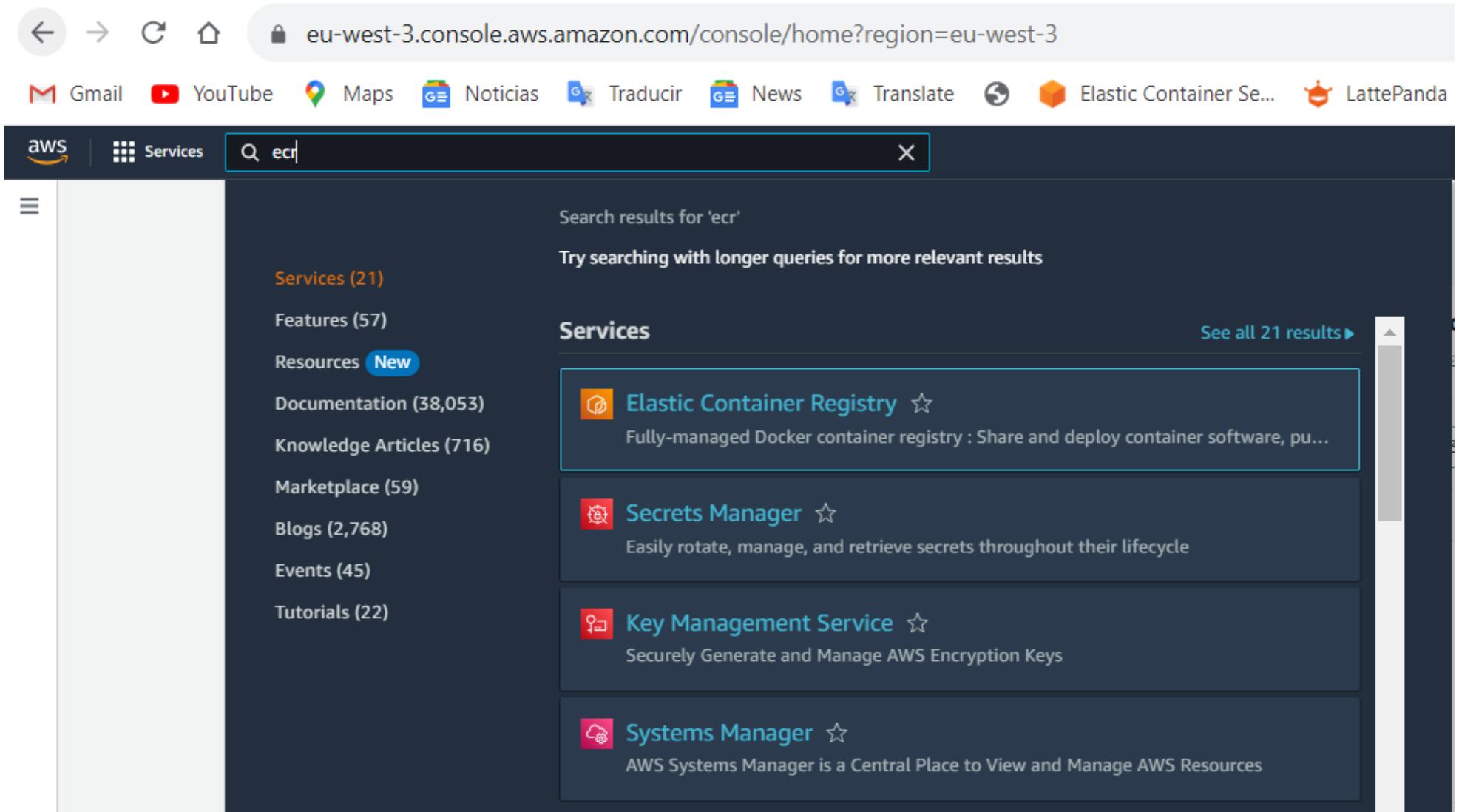
2. Create the docker image and upload it to AWS ECR

We log in to AWS

The screenshot shows the AWS Cloud Console home page. At the top, there's a navigation bar with links to Gmail, YouTube, Maps, Noticias, Traducir, News, Translate, Elastic Container Service, LattePanda 3 Delta, Turkey launches TO..., ESP32 SIM800L GS..., Basic-ESP32-Tutori..., and GPS Car. Below the navigation bar is the AWS logo and a "Services" button. A search bar with the placeholder "[Alt+S]" is also present. The main content area has a header "Console home" with a "Info" link. On the left, there's a sidebar titled "Recently visited" with links to AWS Cloud Map, IAM, Elastic Container Registry, Elastic Container Service, CloudFormation, EC2, and RDS. To the right, there's a section titled "Applications (0) Info" with a "Create application" button. It shows the region as Europe (Paris) and the current region as eu-west-3 (Current Region). A "Find applications" search bar is also present. The table below shows no applications listed.

Name	Description	Region	Originating account
No applications Get started by creating an application. Create application			

We navigate to the AWS ECR service



The screenshot shows the AWS search interface with the query 'ecr' entered into the search bar. The search results are displayed under the 'Services' section, showing four results: Elastic Container Registry, Secrets Manager, Key Management Service, and Systems Manager.

Search results for 'ecr'

Try searching with longer queries for more relevant results

Services (21)

Features (57)

Resources **New**

Documentation (38,053)

Knowledge Articles (716)

Marketplace (59)

Blogs (2,768)

Events (45)

Tutorials (22)

Services

Elastic Container Registry ☆
Fully-managed Docker container registry : Share and deploy container software, pu...

Secrets Manager ☆
Easily rotate, manage, and retrieve secrets throughout their lifecycle

Key Management Service ☆
Securely Generate and Manage AWS Encryption Keys

Systems Manager ☆
AWS Systems Manager is a Central Place to View and Manage AWS Resources

See all 21 results ►

The screenshot shows the AWS ECR Public Registry Repositories page. The left sidebar has a 'Public registry' section with 'Repositories' selected. The main area is titled 'Public repositories' and shows a table with one row: 'No repositories'. A 'Create repository' button is visible at the top right.

We create a new Public Repository

The screenshot shows the same AWS ECR Public Registry Repositories page as before, but with several UI elements highlighted with red boxes: the 'Public registry' section in the sidebar, the 'Repositories' link in the breadcrumb navigation, and the 'Create repository' button at the top right.

Set the Public repo name

The screenshot shows the 'Create repository' page in the AWS ECR console. The URL in the browser is eu-west-3.console.aws.amazon.com/ecr/create-repository?publicRepoCreate=true. The page has a dark header with the AWS logo, a search bar, and a services menu. The main content area shows the breadcrumb path: Amazon ECR > Private registry > Repositories > Create repository. The title is 'Create repository'. A 'General settings' section contains 'Visibility settings' with an 'Info' link. It says 'Choose the visibility setting for the repository.' There are two options: 'Private' (radio button unselected) and 'Public' (radio button selected). A note below states: 'Access is managed by IAM and repository policy permissions.' and 'Publicly visible and accessible for image pulls.' A callout box with an info icon says: 'Once a repository has been created, the visibility setting of the repository can't be changed.' Below this is a 'Detail' section with a 'Repository name' field containing 'public.ecr.aws/x6y4g2f4/examplepublicrepository'. An 'Info' link is next to the field. A note says: 'A namespace can be included with your repository name (e.g. namespace/repo-name).' Below the field, it says: '23 out of 205 characters maximum (2 minimum). The name must start with a letter and can only contain lowercase letters, numbers, hyphens, underscores, periods and forward slashes.'

eu-west-3.console.aws.amazon.com/ecr/create-repository?publicRepoCreate=true

Gmail YouTube Maps Noticias Traducir News Translate Elastic Co

aws Services Search [Alt+S]

Amazon ECR > Private registry > Repositories > Create repository

Create repository

General settings

Visibility settings | [Info](#)

Choose the visibility setting for the repository.

Private
Access is managed by IAM and repository policy permissions.

Public
Publicly visible and accessible for image pulls.

ⓘ Once a repository has been created, the visibility setting of the repository can't be changed.

Detail

Repository name [Info](#)

A namespace can be included with your repository name (e.g. namespace/repo-name).

public.ecr.aws/x6y4g2f4/examplepublicrepository

23 out of 205 characters maximum (2 minimum). The name must start with a letter and can only contain lowercase letters, numbers, hyphens, underscores, periods and forward slashes.

i A default alias is associated with your public registry once your first public repository has been created. The registry alias is displayed as a prefix to the repository name in the repository URI. A customised alias can be requested on the Registry settings page.

We select the operating systems and system architectures that are compatible with the images in your repository

The screenshot shows the AWS ECR Create Repository page. At the top, there is a navigation bar with links to Gmail, YouTube, Maps, Noticias, Traducir, News, Translate, Elastic Container Service, and LattePanc. Below the navigation bar is a search bar with the placeholder "Search" and a keyboard shortcut "[Alt+S]". The main content area has a title "Content types - optional" with an "Info" link. It contains two sections: "Operating systems" and "Architectures". Under "Operating systems", there are two checkboxes: "Linux" (checked) and "Windows" (unchecked). Under "Architectures", there are four checkboxes, all of which are checked: "ARM", "ARM 64", "x86", and "x86-64".

Content types - *optional* [Info](#)

Select the operating systems and system architectures that are compatible with the images in your repository.

Operating systems

Linux
 Windows

Architectures

ARM
 ARM 64
 x86
 x86-64

About - optional [Info](#) [View example](#)

Provide a detailed description of the repository. Identify what is included in the repository, any licensing details or other relevant information.

Describe this repository

0 out of 10,240 characters maximum. Use the GitHub Flavoured Markdown format for the text. [Find out more](#)

[Preview](#)

Usage - optional [Info](#) [View example](#)

Provide detailed information about how to use the images in the repository. This provides context, support information and additional usage details for users of the repository.

Usage information

0 out of 10,240 characters maximum. Use the GitHub Flavoured Markdown format for the text. [Find out more](#)

[Preview](#)

[Cancel](#)[Create repository](#)

We can see the new repo

The screenshot shows the AWS ECR Public Registry interface. On the left, there's a sidebar with 'Amazon Elastic Container Registry' and sections for 'Private registry' (Repositories, Settings) and 'Public registry' (Repositories, Settings). Under 'Public registry', 'Repositories' is selected. In the main area, a green success message says 'Created public repository examplepublicrepository has been successfully created in public registry'. Below this, the 'Public repositories' section shows a table with one item: 'examplepublicrepository' (URI: public.ecr.aws/x6y4g2f4/examplepublicrepository, Created at: December 13, 2023, 16:41:54 (UTC+01)). At the top right of this table are buttons for 'View push commands', 'Delete', 'Actions', and 'Create repository'.

We have to upload the Web API docker image to the AWS ECR repo. We press in the "View push commands" button:

This screenshot shows the details of the 'examplepublicrepository'. The left sidebar has 'Public registry' selected, with 'Repositories' and 'Images' also highlighted with red boxes. The main area shows the 'examplepublicrepository' details, including a 'View public listing' button and a 'View push commands' button, which is also highlighted with a red box. The 'Images' section below shows 'No images' pushed.

These are the commands we have to execute in the Visual Studio Terminal Window

Push commands for examplepublicrepository



Make sure that you have the latest version of the AWS CLI and Docker installed. For more information, see [Getting started with Amazon ECR](#).

Use the following steps to authenticate and push an image to your repository. For additional registry authentication methods, including the Amazon ECR credential helper, see [Registry authentication](#).

1. Retrieve an authentication token and authenticate your Docker client to your registry.

Use the AWS CLI:

```
aws ecr-public get-login-password --region us-east-1 | docker login --username AWS --password-stdin  
public.ecr.aws/x6y4g2f4
```

Note: if you receive an error using the AWS CLI, make sure that you have the latest version of the AWS CLI and Docker installed.

2. Build your Docker image using the following command. For information on building a Docker file from scratch, see the instructions [here](#). You can skip this step if your image has already been built:

```
docker build -t examplepublicrepository .
```

3. After the build is completed, tag your image so you can push the image to this repository:

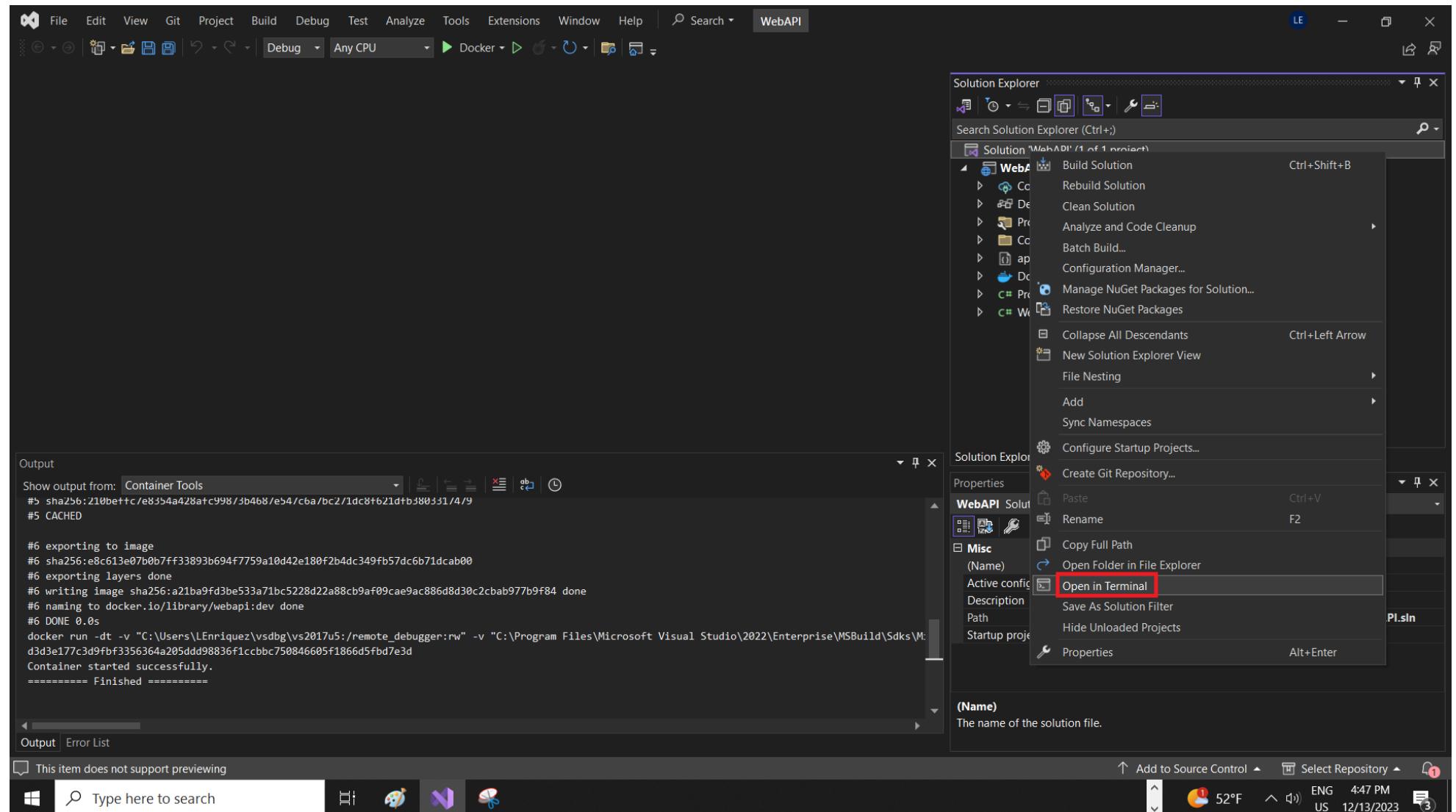
```
docker tag examplepublicrepository:latest public.ecr.aws/x6y4g2f4/examplepublicrepository:latest
```

4. Run the following command to push this image to your newly created AWS repository:

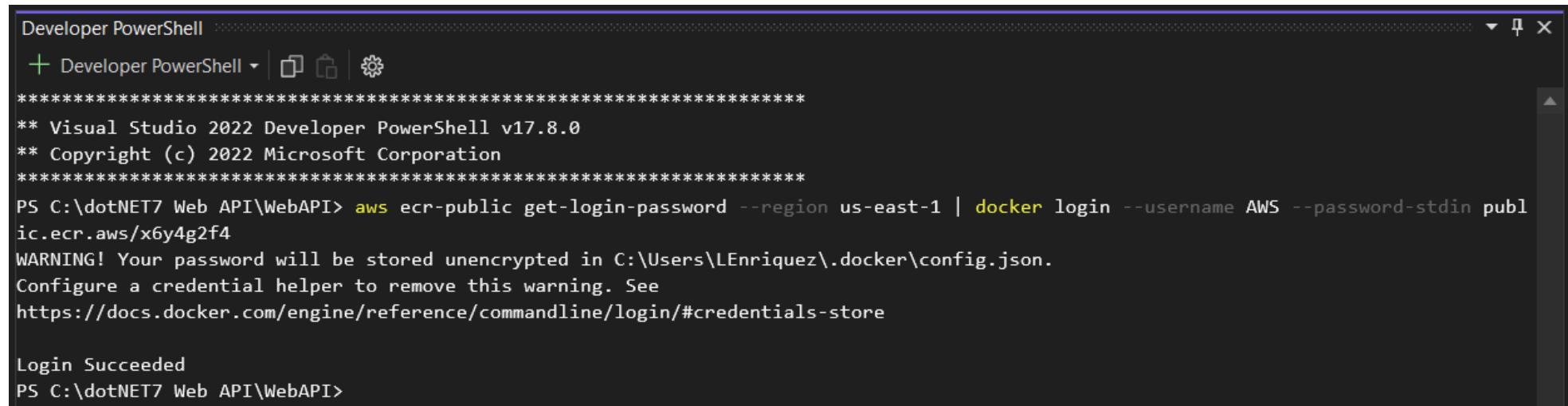
```
docker push public.ecr.aws/x6y4g2f4/examplepublicrepository:latest
```

[Close](#)

We right click on the project and select the option "Open in Terminal"



```
aws ecr-public get-login-password --region us-east-1 | docker login --username AWS --password-stdin public.ecr.aws/x6y4g2f4
```



A screenshot of a Windows Developer PowerShell window. The title bar says "Developer PowerShell". The command entered is "aws ecr-public get-login-password --region us-east-1 | docker login --username AWS --password-stdin public.ecr.aws/x6y4g2f4". The output shows a warning about unencrypted password storage in config.json and a link to Docker documentation. It also says "Login Succeeded".

```
Developer PowerShell
Developer PowerShell | ⌂ ⌂ | ⚙
*****
** Visual Studio 2022 Developer PowerShell v17.8.0
** Copyright (c) 2022 Microsoft Corporation
*****
PS C:\dotNET7 Web API\WebAPI> aws ecr-public get-login-password --region us-east-1 | docker login --username AWS --password-stdin public.ecr.aws/x6y4g2f4
WARNING! Your password will be stored unencrypted in C:\Users\LEnriquez\.docker\config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
PS C:\dotNET7 Web API\WebAPI>
```

```
docker build -t examplepublicrepository .
```

```
docker tag examplepublicrepository:latest public.ecr.aws/x6y4g2f4/examplepublicrepository:latest
```

```
docker push public.ecr.aws/x6y4g2f4/examplepublicrepository:latest
```

Developer PowerShell

+ Developer PowerShell | ⌂ ⌂ | ⚙

```
PS C:\dotNET7 Web API\WebAPI> docker push public.ecr.aws/x6y4g2f4/examplepublicrepository:latest
The push refers to repository [public.ecr.aws/x6y4g2f4/examplepublicrepository]
875f0813f594: Pushed
5f70bf18a086: Pushed
cd3f24ea0311: Pushed
ee7107da446b: Pushed
9165c11d69c3: Pushed
db3084a64bb8: Pushed
d3a323cd3227: Pushed
1b6fd3ad4ce6: Pushed : 1996
PS C:\dotNET7 Web API\WebAPI> 3d40129611cd746a06b46559035ef4d89e4e53f381610b0939c703406 size:
```

We verify in AWS ECR repo the uploaded docker image

The screenshot shows the AWS ECR console interface. On the left, there's a navigation sidebar with 'Amazon Elastic Container Registry' at the top, followed by 'Private registry' and 'Public registry'. Under 'Public registry', 'Images' is selected and highlighted with a red box. The main content area shows a breadcrumb path: 'Amazon ECR > Public registry > Repositories > examplepublicrepository'. Below this, the repository name 'examplepublicrepository' is displayed. A table titled 'Images (1)' lists one entry: 'latest' (Image type, pushed on December 13, 2023, at 16:52:41 UTC+01, size 90.14 MB). There are buttons for 'View public listing', 'View push commands', 'Edit', 'Delete', and 'Details'.

The screenshot shows the AWS ECR console interface. The left sidebar has a tree view with 'Amazon Elastic Container Registry' selected. Under 'Public registry', 'Repositories' is expanded, showing 'examplepublicrepository'. The main content area shows the 'Image' details for the latest tag of this repository. A red box highlights the 'URI' field, which contains the value `public.ecr.aws/x6y4g2f4/examplepublicrepository:latest`. Other fields shown include 'Digest' (sha256:efa51f03d40129611cd746a06b46559035ef4d89e4e53f381610b0939c703406) and 'General information' such as 'Artifact type: Image', 'Repository: examplepublicrepository', 'Size (MB): 90.14', and 'Pushed at: December 13, 2023, 16:52:41 (UTC+01)'.

3. Create a new Cluster in AWS ECS

We navigate to the AWS ECS service

The screenshot shows a web browser window with the URL eu-west-3.console.aws.amazon.com/console/home?region=eu-west-3. The search bar at the top contains the query 'ECS'. Below the search bar, there is a sidebar with various links: Gmail, YouTube, Maps, Noticias, Traducir, News, Translate, Elastic Container Se..., and LattePand. The main content area displays search results for 'ECS'. On the left, a sidebar lists categories: Services (26), Features (62), Resources (New), Documentation (32,588), Knowledge Articles (787), Marketplace (363), Blogs (2,936), Events (46), and Tutorials (26). The main content area has a heading 'Search results for 'ECS'' and a sub-instruction 'Try searching with longer queries for more relevant results'. It features three cards: 'Elastic Container Service' (Highly secure, reliable, and scalable way to run containers), 'Batch' (Fully managed batch processing at any scale), and 'AWS FIS' (Improve resiliency and performance with controlled experiments). A link 'See all 26 results ▶' is located in the top right corner of the search results.

We press the **Create cluster** button

The screenshot shows the AWS Elastic Container Service (ECS) console. The URL in the address bar is eu-west-3.console.aws.amazon.com/ecs/v2/clusters?region=eu-west-3. The top navigation bar includes links for Gmail, YouTube, Maps, Noticias, Traducir, News, Translate, Elastic Container Se..., LattePanda 3 Delta..., Turkey launches TO..., ESP32 SIM800L GS..., Basic-ESP32-Tutori..., GPS Car Tracker U, and Paris. The AWS logo and Services menu are also present. A search bar with the placeholder "[Alt+S]" is at the top right. The main content area has a header "Amazon Elastic Container Service > Clusters". A red box highlights the "Amazon Elastic Container Service" title in the sidebar. Another red box highlights the "Clusters" tab in the sidebar. A third red box highlights the "Create cluster" button in the top right corner of the main content area. The main content area displays "Clusters (0)" and a search bar labeled "Search clusters". Below the search bar is a table header with columns: Cluster, Services, Tasks, Container instances, CloudWatch monitoring, and Capacity provider strategy. The table body below the header shows the message "No clusters" and "No clusters to display".

We set the cluster name and we press the **Create** button. Pay attention we selected the option **AWS Fargate (serverless)**

eu-west-3.console.aws.amazon.com/ecs/v2/create-cluster?region=eu-west-3

Gmail YouTube Maps Noticias Traducir News Translate Elastic Container Se... LattePanda 3

aws Services Search [Alt+S]

Tell us what you think X

Amazon Elastic Container Service

Clusters

- Namespaces
- Task definitions
- Account settings

Install AWS Copilot

Amazon ECR

- Repositories

AWS Batch

Documentation

- Discover products
- Subscriptions

Cluster configuration

Cluster name: examplecluster

Default namespace - optional: examplecluster

▼ 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 centre compute.

► Monitoring - optional Info

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

The screenshot shows the AWS Elastic Container Service (ECS) Clusters page. At the top, there is a modal window titled "Tags - optional" with the sub-instruction "Tags help you to identify and organise your clusters." Below the modal, there are "Cancel" and "Create" buttons. The main content area has a green banner at the top stating "Cluster examplecluster has been created successfully." The main table lists one cluster named "examplecluster". The table columns include Cluster, Services, Tasks, Container instances, CloudWatch monitoring, and Capacity provider strategy. The "examplecluster" row shows 0 services, 0 tasks running, 0 EC2 instances, and is set to the "Default" capacity provider.

4. Create a new role in the IAM service

We navigate to the IAM service

The screenshot shows a web browser window with the URL eu-west-3.console.aws.amazon.com/ecr/repositories/public/550146943653/examplepublicrepository/_/image. The search bar at the top contains the query "iam". Below the search bar, the AWS logo and "Services" link are visible. The main content area displays search results for "iam". A sidebar on the left lists navigation options for "Private registry" and "Public registry". The search results show three items: "IAM" (Manage access to AWS resources), "IAM Identity Center" (Manage workforce user access to multiple AWS accounts and cloud applications), and "Resource Access Manager" (Share AWS resources with other accounts or AWS Organizations). A "See all 11 results" link is also present.

Search results for 'iam'

Try searching with longer queries for more relevant results

Services (11)

Features (21)

Resources New

Documentation (48,933)

Knowledge Articles (551)

Marketplace (717)

Blogs (1,720)

Events (12)

Tutorials (2)

IAM ☆ Manage access to AWS resources

IAM Identity Center ☆ Manage workforce user access to multiple AWS accounts and cloud applications

Resource Access Manager ☆ Share AWS resources with other accounts or AWS Organizations

See all 11 results ▶

Amazon Elastic Container Registry

Private registry

Repositories

Settings

Public registry

Repositories

Images

Gallery detail

Permissions

Repository tags

We create a new role

us-east-1.console.aws.amazon.com/iam/home?region=eu-west-3#/home

Gmail YouTube Maps Noticias Traducir News Translate Elastic Container Se... LattePanda 3 Delta... Turkey launches TO... : Services Search [Alt+S]

Identity and Access Management (IAM)

Search IAM

Dashboard

Access management

- User groups
- Users
- Roles**
- Policies
- Identity providers
- Account settings

IAM Dashboard

IAM > Dashboard

Security recommendations 2

Add MFA for root user
Sign in as the root user (or contact your administrator) and register a multi-factor authentication (MFA) device for the root user to improve security for this account.

Add MFA for yourself
Add multi-factor authentication (MFA) for yourself to improve security for this account. **Add MFA**

Your user, cloudUserLuis, does not have any active access keys that have been unused for more than a year.
Deactivating or deleting unused access keys improves security.

The screenshot shows the AWS IAM Roles page. The left sidebar is titled 'Identity and Access Management (IAM)' and includes sections for Dashboard, Access management (User groups, Users, Roles, Policies, Identity providers, Account settings), and a search bar. The 'Roles' section is currently selected and highlighted with a red box. The main content area shows a table of 27 IAM roles. The columns are 'Role name', 'Trusted entities', and 'Last activity'. The first few rows show roles like 'aws-ec2-spot-fleet-tagging-role' (AWS Service: spotfleet), 'AWSCloud9SSMAccessRole' (AWS Service: cloud9, and 1 more, 173 days ago), and several EKS-related roles (391 days ago, 169 days ago). A large orange 'Create role' button is located at the top right of the table area, also highlighted with a red box.

Role name	Trusted entities	Last activity
aws-ec2-spot-fleet-tagging-role	AWS Service: spotfleet	-
AWSCloud9SSMAccessRole	AWS Service: cloud9, and 1 more.	173 days ago
AwsMicroservicesStack-productApiCloudWatchRole3F00-1DNCVGYU7NNYD	AWS Service: apigateway	391 days ago
AWSServiceRoleForAmazonEKS	AWS Service: eks (Service-Linked Role)	169 days ago
AWSServiceRoleForAmazonEKSNodegroup	AWS Service: eks-nodegroup (Service)	169 days ago

us-east-1.console.aws.amazon.com/iam/home?region=eu-west-3#/roles/create

Gmail YouTube Maps Noticias Traducir News Translate Elastic Container Se... LattePanda 3 Delta... Turkey launches TO... ESP32 SIM800L GS...

aws Services Search [Alt+S]

IAM > Roles > Create role

Step 1 Select trusted entity

Step 2 Add permissions

Step 3 Name, review, and create

Select trusted entity Info

Trusted entity type

AWS service Allow AWS services like EC2, Lambda, or others to perform actions in this account.

AWS account Allow entities in other AWS accounts belonging to you or a 3rd party to perform actions in this account.

Web identity Allows users federated by the specified external web identity provider to assume this role to perform actions in this account.

SAML 2.0 federation Allow users federated with SAML 2.0 from a corporate directory to perform actions in this account.

Custom trust policy Create a custom trust policy to enable others to perform actions in this account.

Use case

Allow an AWS service like EC2, Lambda, or others to perform actions in this account.

Service or use case

Elastic Container Service

Use case

Allow an AWS service like EC2, Lambda, or others to perform actions in this account.

Service or use case

Elastic Container Service



Choose a use case for the specified service.

Use case

Elastic Container Service

Allows ECS to create and manage AWS resources on your behalf.

Elastic Container Service Autoscale

Allows Auto Scaling to access and update ECS services.

Elastic Container Service Task

Allows ECS tasks to call AWS services on your behalf.

EC2 Role for Elastic Container Service

Allows EC2 instances in an ECS cluster to access ECS.

Cancel

Next

us-east-1.console.aws.amazon.com/iam/home?region=eu-west-3#/roles/create?selectedUseCase=EC2ContainerTaskRole&trustedEntityType=AWS_SERVICE&selectedService=EC...

Gmail YouTube Maps Noticias Traducir News Translate Elastic Container Se... LattePanda 3 Delta... Turkey launches TO... ESP32 SIM800L GS... Basic-ESP32-Tutori... GPS Car Tra

aws Services Search [Alt+S] Global cloudUserLuis @ 5501-4

Step 1 Select trusted entity

Step 2 Add permissions

Step 3 Name, review, and create

Add permissions Info

Permissions policies (1/924) Info

Choose one or more policies to attach to your new role.

Filter by Type

Policy name	Type	Description
<input type="checkbox"/> AmazonECS_FullAccess	AWS managed	Provides administrative access to Ama...
<input checked="" type="checkbox"/> AmazonECSTaskExecutionRolePolicy	AWS managed	Provides access to other AWS service r...
<input type="checkbox"/> AWSCodeDeployRoleForECS	AWS managed	Provides CodeDeploy service wide acce...
<input type="checkbox"/> AWSCodeDeployRoleForECSLimited	AWS managed	Provides CodeDeploy service limited a...
<input type="checkbox"/> AWSBeanstalkRoleECS	AWS managed	(Elastic Beanstalk operations role) Allo...
<input type="checkbox"/> AWSFaultInjectionSimulatorECSAccess	AWS managed	This policy grants the Fault Injection Si...

▶ Set permissions boundary - *optional*

[Cancel](#) [Previous](#) [Next](#)

us-east-1.console.aws.amazon.com/iam/home?region=eu-west-3#/roles/create?selectedUseCase=EC2ContainerTaskRole&trustedEntityType=AWS_SERVICE&selected

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aws Services Search [Alt+S] [] X ! ? ⚙️

IAM > Roles > Create role

Step 1 Select trusted entity

Step 2 Add permissions

Step 3 **Name, review, and create**

Name, review, and create

Role details

Role name
Enter a meaningful name to identify this role.
 Maximum 64 characters. Use alphanumeric and '+,-,.,@-' characters.

Description
Add a short explanation for this role.
 Maximum 1000 characters. Use alphanumeric and '+,-,.,@-' characters.

The screenshot shows the AWS ECS Task Execution Role creation wizard at Step 2: Add permissions. At the top, there is a code editor window displaying a JSON policy document:

```
11     },
12     "Action": "sts:AssumeRole"
13   }
14 ]
15 }
```

Below the code editor, the title "Step 2: Add permissions" is displayed, along with an "Edit" button. The main content area is titled "Permissions policy summary" and contains a table:

Policy name	Type	Attached as
AmazonECSTaskExecutionRolePolicy	AWS managed	Permissions policy

At the bottom of the wizard, there are navigation buttons: "Cancel", "Previous", and a highlighted "Create role" button.

5. Create a new Task definition in AWS ECS

We create a new task definition

The screenshot shows the AWS Elastic Container Service (ECS) Task Definitions page. The URL in the browser is eu-west-3.console.aws.amazon.com/ecs/v2/task-definitions?region=eu-west-3. The page title is "AWS ECS: How to deploy .NET 7 Web API". The left sidebar has a "Tell us what you think" link, followed by sections for Clusters, Namespaces, and Task definitions, with "Task definitions" currently selected. The main content area shows the "Amazon Elastic Container Service > Task definitions" path. It displays "Task definitions (0)" with an "Info" link. There is a search bar labeled "Filter task definitions" and a dropdown menu set to "Active". A large message states "No task definitions" and "No task definitions to display." Below this is a prominent orange "Create new task definition" button. The top navigation bar includes links for Gmail, YouTube, Maps, Noticias, Traducir, News, Translate, Elastic Container Se..., LattePanda 3 Delta..., Turkey launches TO..., ESP32 SIM800L GS..., Basic-ESP32-Tutori..., GPS Car Tracker U, and a user profile for "cloudUserLuis @ 5501".

eu-west-3.console.aws.amazon.com/ecs/v2/create-task-definition?region=eu-west-3

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Amazon Elastic Container Service > Create new task definition

Create new task definition Info

Task definition configuration

Task definition family Info
Specify a unique task definition family name.
 Up to 255 letters (uppercase and lowercase), numbers, hyphens, and underscores are allowed.

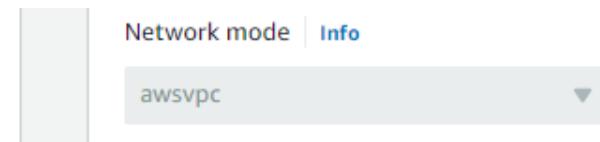
▼ Infrastructure requirements

Specify the infrastructure requirements for the task definition.

Launch type Info
Selection of the launch type will change task definition parameters.
 AWS Fargate Serverless compute for containers.
 Amazon EC2 instances Self-managed infrastructure using Amazon EC2 instances.

OS, Architecture, Network mode
Network mode is used for tasks and is dependent on the compute type selected.

Operating system/Architecture Info



We set the CPU (2 Uds) and the Memory (8 GB). The "Task role" we set to "None" and in "Task execution role" we set to "ecsTaskExecutionRole"

The screenshot shows the 'Task size' section with 'CPU' set to '2 vCPU' and 'Memory' set to '8 GB'. The 'Task roles - conditional' section has 'Task role' set to 'None' and 'Task execution role' set to 'examplenewecstaskexecutionrole'. A note at the bottom states: 'Task placement constraints are not supported for AWS Fargate launch type.'

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Task size | Info Specify the amount of CPU and memory to reserve for your task.

CPU Memory

2 vCPU 8 GB

Task roles - conditional

Task role | Info A task IAM role allows containers in the task to make API requests to AWS services. You can create a task IAM role from the IAM console.

None

Task execution role | Info A task execution IAM role is used by the container agent to make AWS API requests on your behalf. If you don't already have a task execution IAM role created, we can create one for you.

examplenewecstaskexecutionrole

Task placement - optional

Task placement constraints are not supported for AWS Fargate launch type.

eu-west-3.console.aws.amazon.com/ecs/v2/create-task-definition?region=eu-west-3

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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
examplecontainer1	public.ecr.aws/x6y4g2f4/examplepublicrepository:latest	Yes

Private registry Info
Store credentials in Secrets Manager, and then use the credentials to reference images in private registries.
 Private registry authentication

Port mappings Info
Add port mappings to allow the container to access ports on the host to send or receive traffic. For port name, a default will be assigned if left blank.

Container port	Protocol	Port name	App protocol	Remove
80	TCP	http	HTTP	

Add port mapping

Read-only root file system Info
When this parameter is turned on, the container is given read-only access to its root file system.
 Read only

Resource allocation limits - conditional Info
Container-level CPU, GPU and memory limits are different from task-level values. They define how many resources are allocated for the container. If the container attempts to exceed the memory specified by the hard limit, the container is terminated.

CPU	GPU	Memory hard limit	Memory soft limit
2 in vCPU	1	8 in GB	1 in GB

Copy the environmental variables values in the launchSettings.json file

The screenshot shows the Visual Studio IDE interface. The title bar says "WebAPI". The left pane displays the code editor with the file "launchSettings.json". The right pane shows the "Solution Explorer" with the project "WebAPI" selected. The "Properties" node under "WebAPI" has "launchSettings.json" highlighted with a red box. The code in "launchSettings.json" is as follows:

```
1  {
2   "profiles": {
3     "http": {
4       "commandName": "Project",
5       "launchBrowser": true,
6       "launchUrl": "swagger",
7       "environmentVariables": {
8         "ASPNETCORE_ENVIRONMENT": "Development"
9       },
10      "dotnetRunMessages": true,
11      "applicationUrl": "http://localhost:5213"
12    },
13    "IIS Express": {
14      "commandName": "IISExpress",
15      "launchBrowser": true,
16      "launchUrl": "swagger",
17      "environmentVariables": {
18        "ASPNETCORE_ENVIRONMENT": "Development"
19      }
20    },
21    "Docker": {
22      "commandName": "Docker",
23      "launchBrowser": true,
24      "launchUrl": "{Scheme}://{ServiceHost}:{ServicePort}/swagger",
25      "environmentVariables": {
26        "ASPNETCORE_URLS": "http://+:80"
27      },
28      "publishAllPorts": true
29    }
}
```

eu-west-3.console.aws.amazon.com/ecs/v2/create-task-definition?region=eu-west-3

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Environment variables - optional

Environment variables [Info](#)

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

Key	Value type	Value
ASPNETCORE_ENVIRONM	Value	Development

[Add environment variable](#)

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

[Add environment file](#)

You can add 10 more environment files.

Logging - optional

CPU and memory allocation for a sidecar

There are logging options that will automatically add a sidecar to your task definition if it does not already exist. AWS provides CPU and memory adjustment recommendations based on the selected options.

We recommend that you use log collection for tasks running on AWS Fargate. Learn more about [log collection](#).

Log collection [Info](#)

Configure your task to send container logs to a logging destination using a default configuration. See pricing information on [Amazon CloudWatch](#).

Use log collection

Key	Value type	Value
awslogs-group	Value	/ecs/examplenewtaskwebapi
awslogs-region	Value	eu-west-3

Press the **Create** button

eu-west-3.console.aws.amazon.com/ecs/v2/create-task-definition?region=eu-west-3

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Docker labels - optional

+ Add container

▼ Storage - optional

Ephemeral storage | Info

The amount of ephemeral storage, in GiB, to allocate for the task. By default, your tasks hosted on AWS Fargate receive a minimum of 20 GiB of ephemeral storage.

Amount

21

To specify a custom amount of ephemeral storage, specify a value between 21 GiB up to a maximum of 200 GiB.

Volumes | Info

Add one or more data volumes for your task to provide additional storage for the containers in the task. For each data volume, you should add a mount point to specify where to mount the data volume in the container.

Add volume

Volumes from | Info

Mount data volumes from another container.

Add volume from

► Monitoring - optional

Configure your application trace and metric collection settings using the AWS Distro for OpenTelemetry integration.

► Tags - optional Info

Tags help you to identify and organise your task definitions.

Cancel Create

Amazon Elastic Container Service > Task definitions > examenewtaskwebapi > Revision 1 > Containers

examenewtaskwebapi:1

Overview [Info](#)

ARN arn:aws:ecs:eu-west-3:550146943653:task-definition/examenewtaskwebapi:1	Status ACTIVE	Time created 2023-12-13T16:33:51.388Z	App environment FARGATE
Task role -	Task execution role examenewtaskexecutionrole	Operating system/Architecture Linux/X86_64	Network mode awsvpc

Containers [JSON](#) [Task placement](#) [Volumes \(0\)](#) [Requires attributes](#) [Tags](#)

Task size

Task CPU 2 vCPU	Task memory 8 GB
--------------------	---------------------

Containers [Info](#)

Container name	Image	Private registry	Essential	CPU	Memory hard/soft limit	GPU
examplecontainer	public.ecr.aws/x6y4g2f...	-	Yes	2 vCPU	8 GB/-	-

6. Create a new Service in AWS ECS

We input in the new Cluster and we create a new service

eu-west-3.console.aws.amazon.com/ecs/v2/clusters/examplecluster/services?region=eu-west-3

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AWS Services Search [Alt+S] Tell us what you think X

Amazon Elastic Container Service > Clusters > examplecluster > Services

examplecluster

Cluster overview

ARN	Status	CloudWatch monitoring	Registered container instances
arn:aws:ecs:eu-west-3:550146943653:cluster/examplecluster	Active	Default	-

Services

Draining	Active	Pending	Running
-	-	-	-

Tasks

Services (0) Info

Filter launch type Filter service type

Filter services by value Any launch type Any service type

< 1 > ⏪ ⏩

Service name	ARN	Status	Service type	Deployments and tasks	Last deployment	Task definition	L...
No services No services to display.							

Create

eu-west-3.console.aws.amazon.com/ecs/v2/clusters/examplecluster/create-service?region=eu-west-3

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Tell us what you think ×

Amazon Elastic Container Service > Clusters > examplecluster > Create service

Create Info

Environment AWS Fargate

Existing cluster examplecluster

▼ Compute configuration (advanced)

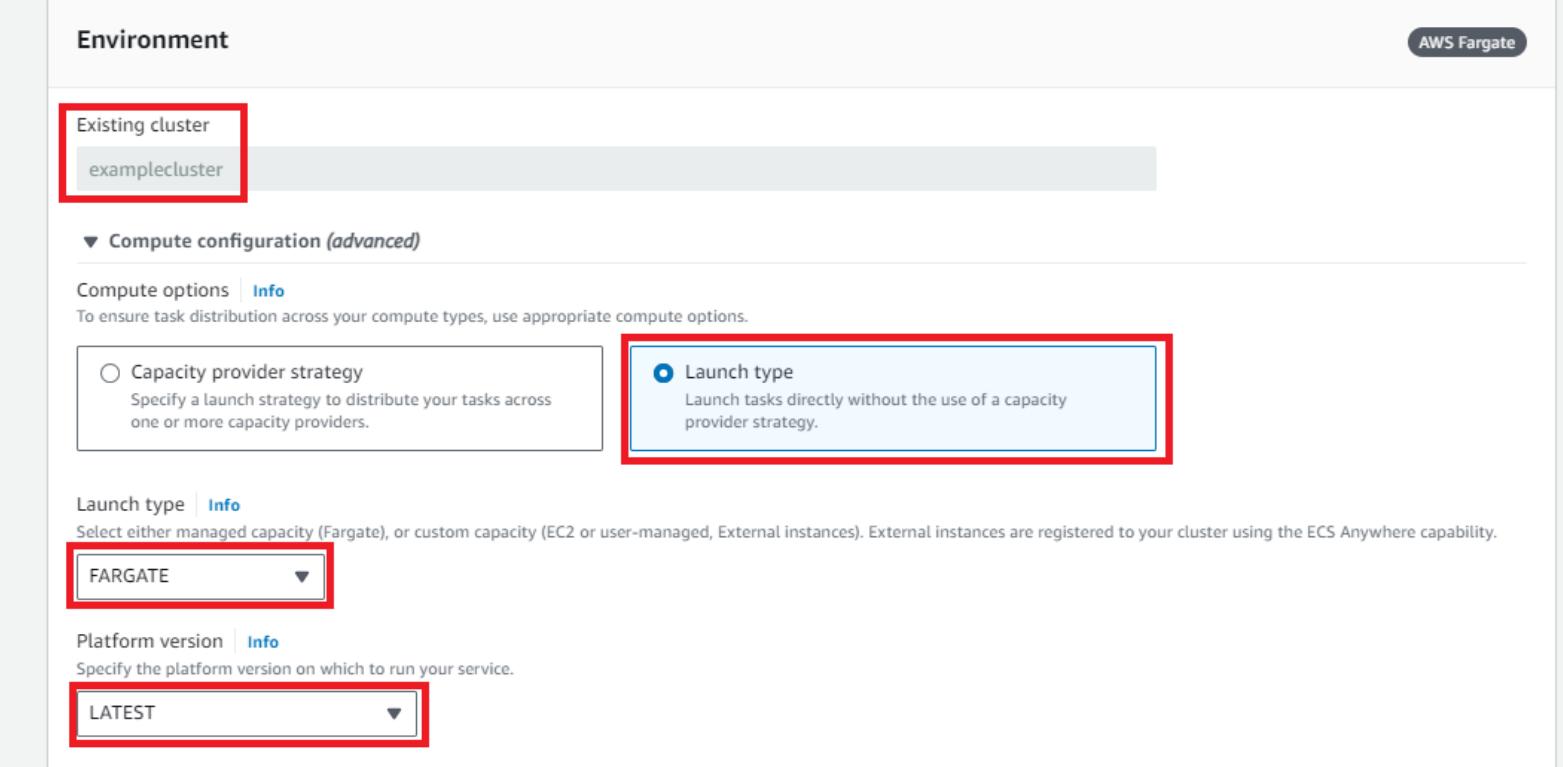
Compute options Info
To ensure task distribution across your compute types, use appropriate compute options.

Capacity provider strategy
Specify a launch strategy to distribute your tasks across one or more capacity providers.

Launch type
Launch tasks directly without the use of a capacity provider strategy.

Launch type Info
Select either managed capacity (Fargate), or custom capacity (EC2 or user-managed, External instances). External instances are registered to your cluster using the ECS Anywhere capability.
FARGATE

Platform version Info
Specify the platform version on which to run your service.
LATEST



eu-west-3.console.aws.amazon.com/ecs/v2/clusters/examplecluster/create-service?region=eu-west-3

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

Family	Revision
examplenewtaskwebapi	1 (LATEST)

Service name
Assign a unique name for this service.
exampleservice

Service type [Info](#)
Specify the service type that the service scheduler will follow.

Replica
Place and maintain a desired number of tasks across your cluster.

Daemon
Place and maintain one copy of your task on each container instance.

Desired tasks
Specify the number of tasks to launch.

1

- ▶ Deployment options
- ▶ Deployment failure detection [Info](#)

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▶ Deployment options

▶ Deployment failure detection [Info](#)

▼ Service Connect - *optional*
Configure this service in a namespace to create and resolve endpoints. Services can resolve endpoints within the same namespace without task or application configuration.
 Turn on Service Connect [Info](#)
Turn off Service Connect to remove the configuration.

▶ Service discovery - *optional*
Service discovery uses Amazon Route 53 to create a namespace for your service, which allows it to be discoverable via DNS.

▶ Networking

▶ Load balancing - *optional*

▶ Service auto scaling - *optional*
Automatically adjust your service's desired count up and down within a specified range in response to CloudWatch alarms. You can modify your service auto scaling configuration at any time to meet the needs of your application.

▶ Tags - *optional* [Info](#)
Tags help you to identify and organise your resources.

[Cancel](#) Create

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Amazon Elastic Container Service > Clusters > examplecluster > Services

examplecluster

Cluster overview

ARN	Status	CloudWatch monitoring	Registered container instances
arn:aws:ecs:eu-west-3:550146943653:cluster/examplecluster	Active	Default	-

Services	Tasks
Draining	Pending
-	-
Active	Running
1	1

Services (1)

Service name	ARN	Status	Service type	Deployments and tasks	Last deployment	Task definition	Launch type
exampleservice	arn:aws:ec...	Active	REPLICA	1/1 tasks running	Completed	exemplenewtaskwe...	Any launch type

Filter services by value

Filter launch type

Filter service type

Manage tags

Update

Delete service

Create

eu-west-3.console.aws.amazon.com/ecs/v2/clusters/examplecluster/tasks?region=eu-west-3

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aws Services Search [Alt+S] Tell us what you think X

Amazon Elastic Container Service > Clusters > examplecluster > Tasks

examplecluster

Cluster overview

ARN arn:aws:ecs:eu-west-3:550146943653:cluster/examplecluster	Status Active	CloudWatch monitoring Default	Registered container instances -
--	---	---	-------------------------------------

Services

Draining -	Active 1	Pending -	Running 1
---------------	-------------	--------------	--------------

Tasks

Services | **Tasks** | Infrastructure | Metrics | Scheduled tasks | Tags

Tasks (1)

Task	Last status	Desired state	Task definition	Health status	Started at	Container instance	Launch type	Platform version	CPU	Memory
ef90a506...	Running	Running	examp...enewt...	Unknown	3 minutes ago	-	FARGATE	1.4.0	2 vCPU	8 GB

Filter desired status: Running | Filter launch type: Any launch type | Page: 1 / 1 | View: List

The screenshot shows the AWS Elastic Container Service (ECS) console. The URL in the browser is eu-west-3.console.aws.amazon.com/ecs/v2/clusters/examplecluster/tasks/ef90a50614b844a0a17cb44d31932ce7/configuration?region=eu-west-3&selectedContainer=exampletask. The page displays the configuration for a specific task ID: ef90a50614b844a0a17cb44d31932ce7. The task overview shows it is running. The configuration section highlights the Public IP address, which is 15.188.246.57.

Task overview

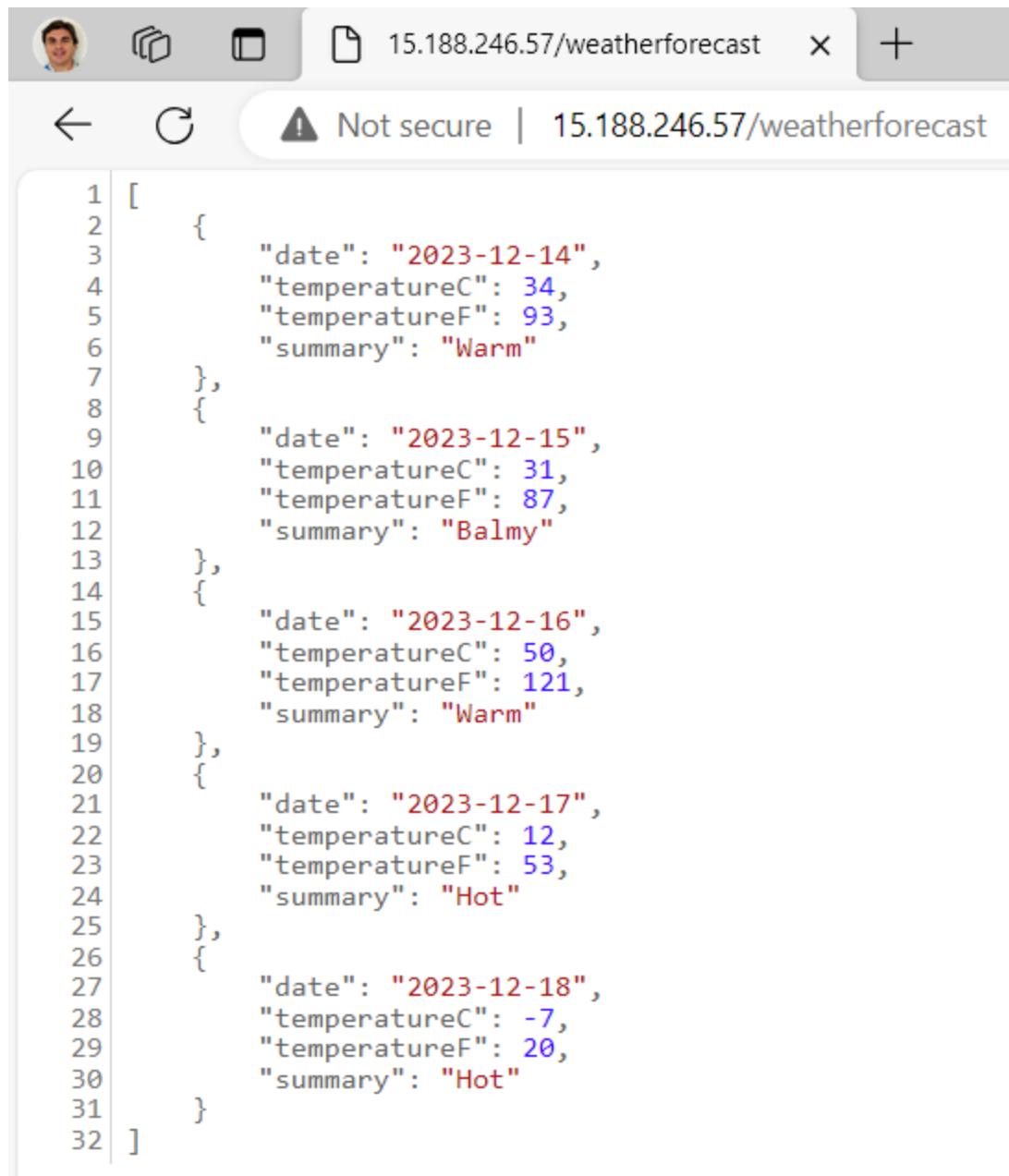
ARN	Last status	Desired status	Started/created at
arn:aws:ecs:eu-west-3:550146943653:task/examplecluster/ef90a50614b844a0a17cb44d31932ce7	Running	Running	2023-12-13T16:40:04.827Z 2023-12-13T16:39:38.913Z

Configuration

Operating system/Architecture	Capacity provider	ENI ID	Public IP
Linux/X86_64	-	eni-0cb411abe4147bcdf	15.188.246.57 open address
CPU Memory	Launch type	Network mode	Private IP
2 vCPU 8 GB	FARGATE	awsvpc	172.31.11.111
Platform version	Task definition: revision	Subnet ID	MAC address
1.4.0	examplenewtaskwebapi:1	subnet-0c773b8ac5250a86a	06:c2:cc:76:d8:ee
	Task group		
	service:exampleservice		

7. Access to the Web API application endpoint

<http://15.188.246.57/weatherforecast>



A screenshot of a web browser window. The address bar shows the URL `15.188.246.57/weatherforecast`. A warning icon indicates the connection is not secure. The page content is a JSON array of weather forecast data, with line numbers 1 through 32 on the left.

```
1 [  
2 {  
3     "date": "2023-12-14",  
4     "temperatureC": 34,  
5     "temperatureF": 93,  
6     "summary": "Warm"  
7 },  
8 {  
9     "date": "2023-12-15",  
10    "temperatureC": 31,  
11    "temperatureF": 87,  
12    "summary": "Balmy"  
13 },  
14 {  
15     "date": "2023-12-16",  
16     "temperatureC": 50,  
17     "temperatureF": 121,  
18     "summary": "Warm"  
19 },  
20 {  
21     "date": "2023-12-17",  
22     "temperatureC": 12,  
23     "temperatureF": 53,  
24     "summary": "Hot"  
25 },  
26 {  
27     "date": "2023-12-18",  
28     "temperatureC": -7,  
29     "temperatureF": 20,  
30     "summary": "Hot"  
31 }  
32 ]
```