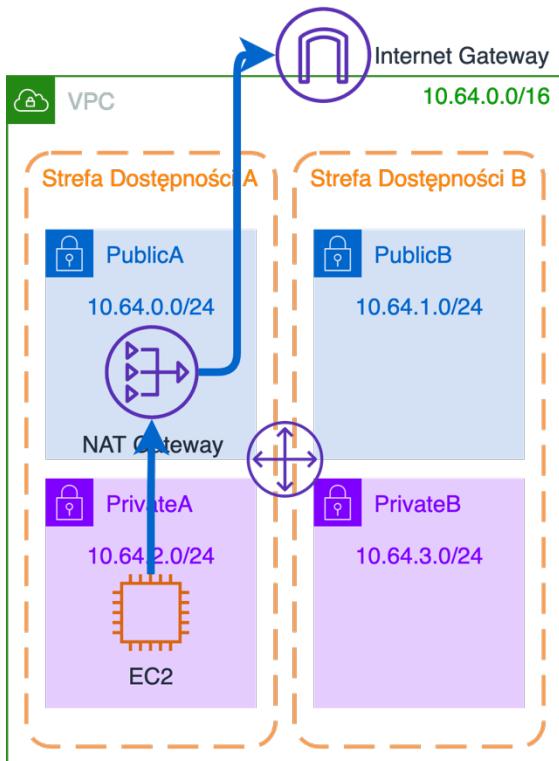


# ĆWICZENIE NR 1

W tym ćwiczeniu stworzysz dwa VPC jedno ręcznie, krok po kroku i drugie automatycznie z wykorzystaniem CloudFormation.

## 1.1 Manualne VPC

Zadanie polega na zbudowaniu konfiguracji pokazanej na poniższym diagramie i przetestowanie połączenia z maszyny EC2 do internetu.



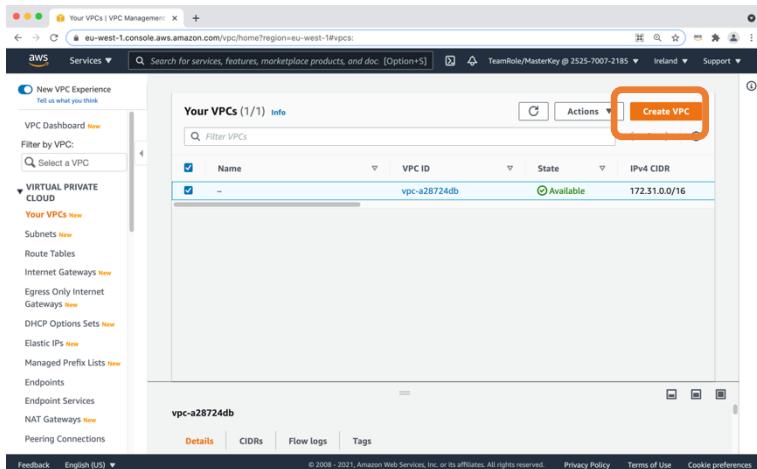
Kroki:

1. [Utwórz Virtual Private Cloud\(VPC\), definiując IP CIDR.](#)
2. [Zrób 4 podsieci: 2 publiczne i 2 prywatne.](#)
3. [Skonfiguruj Internet Gateway.](#)
4. [Skonfiguruj NAT Gateway](#)
5. [Zdefiniuj publiczne route table; z route do Internet Gateway i powiązane z publicznymi podsieciami.](#)
6. [Zdefiniuj prywatne route table; z route do NAT Gateway I powiązane z prywatnymi podsieciami.](#)
7. Utwórz EC2 i przetestuj połączenie.
8. Użyj skryptu do stworzenia analogicznej konfiguracji.

Poniżej zrzuty kolejnych kroków.

## 1.1.1 Utwórz VPC

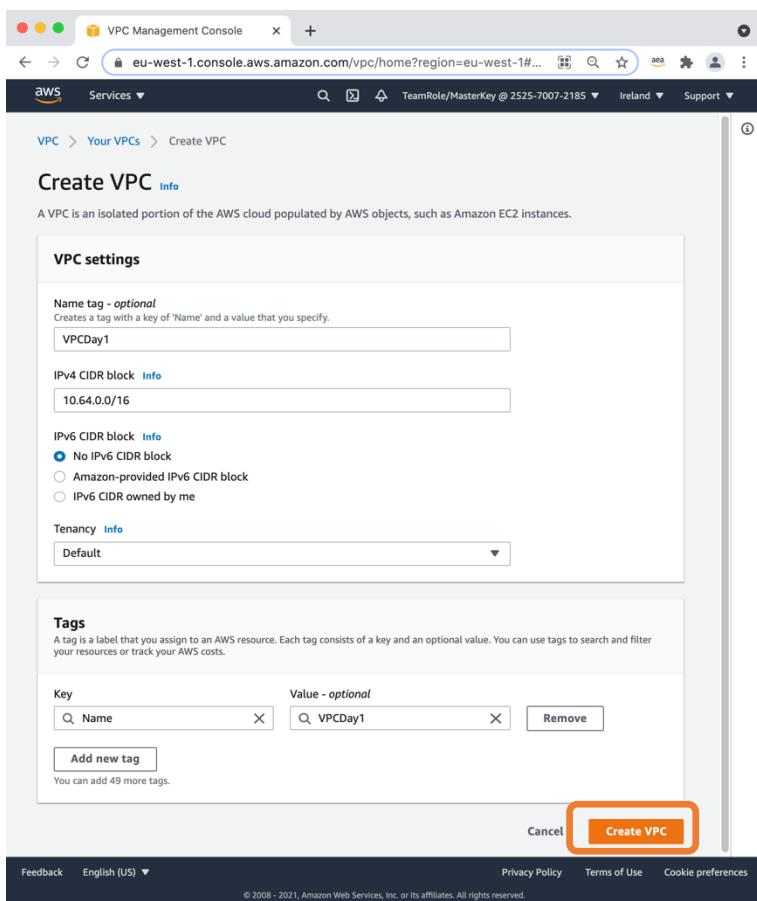
### 1.1.1.1 Wejdź na stronę Your VPC i wybierz Create VPC



The screenshot shows the 'Your VPCs' page in the AWS VPC Management Console. At the top, there's a search bar and a 'Create VPC' button, which is highlighted with an orange box. Below the search bar is a table with columns: Name, VPC ID, State, and IPv4 CIDR. One row is visible, labeled 'vpc-a28724db' with state 'Available' and CIDR '172.31.0.0/16'. On the left sidebar, there are links for VPC Dashboard, Filter by VPC, and various VPC-related services like Subnets, Route Tables, Internet Gateways, Egress Only Internet Gateways, DHCP Options Sets, Elastic IPs, Managed Prefix Lists, Endpoints, Endpoint Services, NAT Gateways, and Peering Connections.

### 1.1.1.2 Wprowadź dane VPC (podane dane są przykładowe)

- Tag Name: VPCDay1
- Podaj IPv4 CIDR block 10.64.0.0/16
- Pozostaw opcję no IPv6 CIDR block
- Pozostaw Tenancy (Default)
- Naciśnij Create VPC



The screenshot shows the 'Create VPC' configuration page. It has two main sections: 'VPC settings' and 'Tags'. In 'VPC settings', there are fields for 'Name tag - optional' (containing 'VPCDay1'), 'IPv4 CIDR block' (containing '10.64.0.0/16'), and 'IPv6 CIDR block' (with radio buttons for 'No IPv6 CIDR block' (selected), 'Amazon-provided IPv6 CIDR block', and 'IPv6 CIDR owned by me'). In the 'Tenancy' section, 'Default' is selected. In the 'Tags' section, there's a table with one tag ('Name' key, 'VPCDay1 value') and a 'Create VPC' button at the bottom right, which is highlighted with an orange box.

Dostaniesz widok na szczegóły nowego VPC.

### 1.1.1.3 Włącz DNS hostnames

The screenshot shows the AWS VPC Management Console interface. A modal window at the top right says 'You successfully created vpc-039f0bf885204b8f4 / VPCDay1'. Below it, the main VPC details page is visible. On the right side of the page, there's a vertical 'Actions' menu with several options: 'Create flow log', 'Edit CIDRs', 'Edit DHCP options set', 'Edit DNS hostnames' (which is highlighted with a red box), 'Manage tags', and 'Delete VPC'. The main table on the left lists various VPC components like Subnets, Route Tables, Internet Gateways, etc.

This screenshot shows the 'Edit DNS hostnames' configuration dialog. It has a single section labeled 'DNS hostnames' with the sub-instruction 'Indicates whether instances with public IP addresses get corresponding public DNS hostnames.' Below this is a table with two rows. The first row contains 'VPC ID' and 'DNS hostnames'. The second row contains 'vpc-039f0bf885204b8f4' and 'Enable' (which is checked and highlighted with a red box). At the bottom of the dialog are 'Cancel' and 'Save changes' buttons.

### 1.1.2 Skonfiguruj 4 podsieci

PublicA eu-west-1a 10.64.0.0/24

PublicB eu-west-1b 10.64.1.0/24

PrivateA eu-west-1a 10.64.2.0/24

PrivateB eu-west-1b 10.64.3.0/24

### 1.1.2.1 Wybierz z lewego menu Subnets i przycisk Create Subnet

Name	Subnet ID	State	VPC
-	subnet-cc94ca96	Available	vpc-a28724db
-	subnet-ed6985a6	Available	vpc-a28724db
-	subnet-04475b62	Available	vpc-a28724db

### 1.1.2.2 Podaj dane dla podsieci

- Wybierz VPCDay1
- Podaj Tag Name: PublicA
- Wybierz Availability Zone
- Podaj zakres IPv4 CIDR block: 10.64.0.0/24
- Wybierz **Create Subnet**
- Powtórz akcje dla 3 następnych podsieci

**Create subnet** [Info](#)

<b>VPC</b>
VPC ID Create subnets in this VPC. <input type="text" value="vpc-039f0bf885204b8f4 (VPCDay1)"/>
<b>Associated VPC CIDRs</b>
IPv4 CIDRs 10.64.0.0/16
<b>Subnet settings</b> Specify the CIDR blocks and Availability Zone for the subnet.
<b>Subnet 1 of 1</b>
Subnet name Create a tag with a key of 'Name' and a value that you specify. <input type="text" value="PublicA"/>
The name can be up to 256 characters long.
Availability Zone <a href="#">Info</a> Choose the zone in which your subnet will reside, or let Amazon choose one for you. <input type="text" value="Europe (Ireland) / eu-west-1a"/>
IPv4 CIDR block <a href="#">Info</a> <input type="text" value="10.64.0.0/24"/>
▼ Tags - optional
Key <input type="text" value="Name"/> Value - optional <input type="text" value="PublicA"/> <input type="button" value="Remove"/>
<input type="button" value="Add new tag"/>
You can add 49 more tags.
<input type="button" value="Remove"/>
<input type="button" value="Add new subnet"/>

[Cancel](#)

### 1.1.2.3 Zweryfikuj konfiguracje podsieci na koncie

The screenshot shows the AWS VPC Management Console with the URL [eu-west-1.console.aws.amazon.com/vpc/home?region=eu-west-1#subnets](https://eu-west-1.console.aws.amazon.com/vpc/home?region=eu-west-1#subnets). The left sidebar shows the VPC Dashboard with 'Your VPCs' selected. The main area displays a table of subnets. One row for 'PublicA' is highlighted with a red box. The table columns include Name, Subnet ID, State, VPC, IPv4 CIDR, IPv6 CIDR, Availability Zone ID, and Availability Zone. The 'PublicA' row has values: Name: PublicA, Subnet ID: subnet-0d9502b0d05965e73, State: Available, VPC: vpc-a28724db, IPv4 CIDR: 172.31.16.0/20, Availability Zone ID: eu-west-1a, Availability Zone: eu-west-1a.

### 1.1.3 Skonfiguruj Internet Gateway

#### 1.1.3.1 Wybierz z lewego menu Internet Gateways

The screenshot shows the AWS VPC Management Console with the URL [eu-west-1.console.aws.amazon.com/vpc/home?region=eu-west-1#gws](https://eu-west-1.console.aws.amazon.com/vpc/home?region=eu-west-1#gws). The left sidebar shows the VPC Dashboard with 'Your VPCs' selected. The main area displays a table of internet gateways. One row for 'igw-22eb3744' is highlighted with a red box. The table columns include Name, Internet gateway ID, State, VPC ID, and Owner. The 'igw-22eb3744' row has values: Name: igw-22eb3744, Internet gateway ID: igw-22eb3744, State: Attached, VPC ID: vpc-a28724db, Owner: 252570072185.

#### 1.1.3.2 Podaj nazwę i wybierz Create Internet Gateway

Create internet gateway [Info](#)

An internet gateway is a virtual router that connects a VPC to the internet. To create a new internet gateway specify the name for the gateway below.

**Internet gateway settings**

Name tag  
Creates a tag with a key of 'Name' and a value that you specify.

**Tags - optional**  
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  Remove

Add new tag

You can add 49 more tags.

[Cancel](#) [Create internet gateway](#)

### 1.1.3.3 Dołącz Internet Gateway do VPC

VPC Management Console [+](#)

The following internet gateway was created: **igw-05a31fb25dbcfed83**. You can now attach to a VPC to enable the VPC to communicate with the internet.

[Attach to a VPC](#)

**igw-05a31fb25dbcfed83 / IGWDay1**

**Details** [Info](#)

Internet gateway ID	State	VPC ID	Owner
<a href="#">igw-05a31fb25dbcfed83</a>	Detached	-	252570072185

**Tags**

Key	Value
Name	IGWDay1

### 1.1.3.4 Wybierz VPCDay1

Attach internet gateway | VPC [+](#)

Attach an internet gateway to a VPC to enable the VPC to communicate with the internet. Specify the VPC to attach below.

**Available VPCs**  
Attach the internet gateway to this VPC.

▶ AWS Command Line Interface command

[Cancel](#) [Attach internet gateway](#)

The screenshot shows the AWS VPC Management Console with the URL [eu-west-1.console.aws.amazon.com/vpc/home?region=eu-west-1#InternetGateway:igw-05a31fb25dbcfed83](https://eu-west-1.console.aws.amazon.com/vpc/home?region=eu-west-1#InternetGateway:igw-05a31fb25dbcfed83). The main pane displays the details of an Internet Gateway named 'igw-05a31fb25dbcfed83' attached to a VPC with ID 'vpc-039f0bf885204b8f4'. The 'Actions' dropdown menu is open. The left sidebar lists various VPC-related services like Subnets, Route Tables, and Internet Gateways. The bottom navigation bar includes links for Feedback, English (US), and cookie preferences.

## 1.1.4 Skonfiguruj NAT Gateway

### 1.1.4.1 Wybierz NAT Gateways z lewego menu i Create NAT Gateway

The screenshot shows the AWS VPC Management Console with the URL [eu-west-1.console.aws.amazon.com/vpc/home?region=eu-west-1#NatGateways](https://eu-west-1.console.aws.amazon.com/vpc/home?region=eu-west-1#NatGateways). The main pane displays a list of NAT gateways with columns for Name, NAT gateway ID, State, State message, and Elastic IP address. A red 'Create NAT gateway' button is visible at the top right. The left sidebar lists various VPC-related services like Subnets, Route Tables, and Internet Gateways. The bottom navigation bar includes links for Feedback, English (US), and cookie preferences.

### 1.1.4.2 Podaj dane dla NAT Gateway

- Nazwę
- Podsieć PublicA
- Przypisz publiczny adres IP poprzez **Allocate Elastic IP**

**Create NAT gateway** Info

Create a NAT gateway and assign it an Elastic IP address.

**NAT gateway settings**

Name - optional  
Create a tag with a key of 'Name' and a value that you specify.

The name can be up to 256 characters long.

Subnet  
Select a public subnet in which to create the NAT gateway.

Elastic IP allocation ID Info  
Assign an Elastic IP address to the NAT gateway.  
 Allocate Elastic IP

**Tags**  
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 - <small>optional</small>
<input type="text" value="Name"/>	<input type="text" value="NATGatewayDay1"/>

Add new tag  
You can add 49 more tags.

Cancel Create NAT gateway

Feedback English (US) ▾ Privacy Policy Terms of Use Cookie preferences  
© 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Otrzymasz stronę ze szczegółami NAT Gateway.

**NAT gateway** nat-0c7d2e972361ee7d | NATGatewayDay1 was created successfully.

**Details** Info

NAT gateway ID	State	State message	Elastic IP address
<input checked="" type="checkbox"/> nat-0c7d2e972361ee7d	Pending	<small>Info</small>	-
Private IP Address	Network interface ID	VPC	Subnet
-	-	vpc-039fbff885204b8f4 / VPCDay1	subnet-03b399233b1323126 / PublicA
Created	Deleted		
<input checked="" type="checkbox"/> 2021/05/10 17:51 GMT+2	-		

## 1.1.5 Zdefiniuj publiczne route table

### 1.1.5.1 Wybierz z lewego menu Route Tables i Create route table

**Route Tables** | VPC Management

**Create route table**

Name	Route Table ID	Explicit subnet association	Edge as	Main	VPC ID	Owner
rtb-0673b97e	rtb-0673b97e	-	-	Yes	vpc-a28724db	252570072185
rtb-07ff9bc353...	rtb-07ff9bc353...	-	-	Yes	vpc-039fbff885204b8f4   ...	252570072185

### 1.1.5.2 Podaj dane route table

- Tag z nazwą
- Przypisanie do VPC
- Wybierz **Create**

Create route table

A route table specifies how packets are forwarded between the subnets within your VPC, the internet, and your VPN connection.

Name tag	VPCDay1-Public-RTB
VPC*	vpc-0390fbf885204fb84
Key	(128 characters maximum)
Value	(256 characters maximum)
This resource currently has no tags	
Add Tag	50 remaining (Up to 50 tags maximum)

\* Required

**Create**

Feedback English (US) ▾ © 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use Cookie preferences

### 1.1.5.3 Wybierz Edit routes

Route Tables | VPC Management

Create route table Actions ▾

Set Main Route Table Delete Route Table

Name	Subnet association	Edge as	Main	VPC ID	Owner
vpc-a28724db	-	-	Yes	vpc-0390fbf885204fb84	252570072185
vpc-0390fbf885204fb84	-	-	Yes	vpc-0390fbf885204fb84	252570072185
VPCDay1-P...	-	-	No	vpc-0390fbf885204fb84	252570072185

Route Table: rtb-0d52919b65d1426d6

Summary Routes Subnet Associations Edge Associations Route Propagation Tags

Edit routes

View All routes

Destination	Target	Status	Propagated
10.64.0.0/16	local	active	No

### 1.1.5.4 Dodaj route do Internet Gateway

Edit routes | VPC Management

Edit routes

Destination	Target	Status	Propagated
10.64.0.0/16	local	active	No
0.0.0.0/0			No

Add route

\* Required

Egress Only Internet Gateway  
Gateway Load Balancer Endpoint  
Instance  
Internet Gateway  
NAT Gateway  
Network Interface  
Outpost Local Gateway  
Peering Connection

**Cancel Save routes**

Feedback English (US) ▾ © 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use Cookie preferences

Destination	Target	Status	Propagated
10.64.0.0/16	local	active	No
0.0.0.0/0	igw-05a31fb25dbcfed83	No	

**Edit routes**

\* Required

**Save routes**

Feedback English (US) ▾ © 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use Cookie preferences

## 1.1.5.5 Wybierz Subnet Associations

**Create route table**

Name	Route Table ID	Explicit subnet association	Edge as	Main	VPC ID	Owner
rtb-0673b97e	-	-	-	Yes	vpc-a28724db	252570072185
rb-07f8e8c353...	-	-	-	Yes	vpc-0390b885204b84   ...	252570072185
<b>VPCDay1-P...</b>	<b>rb-0d529196...</b>	-	-	No	vpc-0390b885204b84   ...	252570072185

**Route Table:** rtb-0d52919b65d1426d6

**Subnet Associations** (highlighted with an orange box)

**Summary** **Routes** **Subnet Associations** **Edge Associations** **Route Propagation** **Tags**

**Edit subnet associations**

You do not have any subnet associations.

The following subnets have not been explicitly associated with any route tables and are therefore associated with the main route table:

Feedback English (US) ▾ © 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use Cookie preferences

## 1.1.5.6 Przypisz Public route table do publicznych podsieci i zapisz

**Edit subnet associations**

**Route table:** rtb-0d52919b65d1426d6 (VPCDay1-Public-RTB)

**Associated subnets:** **subnet-050fa7e1fd3a5ae2** **subnet-03b399233b1323126**

Subnet ID	IPv4 CIDR	IPv6 CIDR	Current Route Table
subnet-03b399233b1323126   PublicA	10.64.0.0/24	-	Main
subnet-050fa7e1fd3a5ae2   PublicB	10.64.1.0/24	-	Main
subnet-08bf6f29de29779c   PrivateA	10.64.2.0/24	-	Main
subnet-09f052bbd659b5e73   PrivateB	10.64.3.0/24	-	Main

\* Required

**Save**

Feedback English (US) ▾ © 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use Cookie preferences

The screenshot shows the AWS VPC Management console with the 'Route Tables' section selected. A list of route tables is displayed, with one specific route table ('rtb-0d52919b65d1426d6') expanded to show its subnet associations. The 'Subnet Associations' tab is active, showing two subnets associated with this route table.

## 1.1.6 Zdefiniuj prywatne route table

### 1.1.6.1 Podaj dane route table

- Tag z nazwą
- Przypisanie do VPC
- Wybierz Create

The screenshot shows the 'Create route table' wizard. Step 1: Set route table name and VPC. Step 2: Add tags. Step 3: Review and Create. The 'Create' button is visible at the bottom right.

### 1.1.6.2 Dodaj route do NAT Gateway

The screenshot shows the 'Edit routes' wizard. Step 1: Add route. Step 2: Select target (NAT Gateway). Step 3: Save routes. A modal window is open, showing options for the target, with 'NAT Gateway' selected. The 'Save routes' button is visible at the bottom right.

Route Tables > Edit routes

Edit routes

Destination	Target	Status	Propagated
10.64.0.0/16	local	active	No
0.0.0.0/0	nat-0c7cd2e972361ee7d	active	No

**\* Required** Cancel Save routes

### 1.1.6.3 Przypisz Private route table do prywatnych podsieci i zapisz

New VPC Experience

VPC Dashboard

Filter by VPC: Select a VPC

VIRTUAL PRIVATE CLOUD

Your VPCs New

Subnets New

Route Tables

Internet Gateways New

Egress Only Internet Gateways New

DHCP Options Sets New

Elastic IPs New

Managed Prefix Lists New

Endpoints

Endpoint Services

NAT Gateways New

Peering Connections

Feedback English (US) ▾

Route Tables | VPC Management

eu-west-1.console.aws.amazon.com/vpc/home?region=eu-west-1#RouteTables:...

Create route table Actions ▾

Set Main Route Table Delete Route Table

Name: VPCDay1-Private-RTB

Explicit subnet association Edge as Main VPC ID Owner

2 subnets

Route Table: rtb-0f2145c00237ed805

Summary Routes Subnet Associations Edge Associations Route Propagation Tags

Edit routes

View All routes

Destination	Target	Status	Propagated
10.64.0.0/16	local	active	No
0.0.0.0/0	nat-0c7cd2e972361ee7d	active	No

Feedback English (US) ▾

Route Tables > Edit subnet associations

Edit subnet associations

Route table: rtb-0f2145c00237ed805 (VPCDay1-Private-RTB)

Associated subnets: subnet-09f052bd659b5e73, subnet-0f8af0f29de29779c

Subnet ID	IPv4 CIDR	IPv6 CIDR	Current Route Table
subnet-03b399233b1323126   PublicA	10.64.0.0/24	-	rtb-0d52919b65d1426d6
subnet-050fa7e71fd3a5e2d   PublicB	10.64.1.0/24	-	rtb-0d52919b65d1426d6
subnet-0f8af0f29de29779c   PrivateA	10.64.2.0/24	-	Main
subnet-09f052bd659b5e73   PrivateB	10.64.3.0/24	-	Main

\* Required Cancel Save

Route Tables | VPC Management

Services ▾

New VPC Experience

Filter by VPC:

VIRTUAL PRIVATE CLOUD

Your VPCs New

Subnets New

Route Tables

Internet Gateways New

Egress Only Internet Gateways New

DHCP Options Sets New

Elastic IPs New

Managed Prefix Lists New

Endpoints

Endpoint Services

NAT Gateways New

Peering Connections

SECURITY

Create route table Actions ▾

Search for services, features, marketplace products, and docs [Option+S]

TeamRole/MasterKey @ 2525-7007-2185 Ireland Support ▾

Name Route Table ID Explicit subnet association Edge as Main VPC ID Owner

rtb-0673b97e	-	-	Yes	vpc-a28724db	252570072185
rtb-07f98c353	-	-	Yes	vpc-039f0b8885204b8f4	252570072185
VPCDay1-Public-RTB	rb-0529106...	2 subnets	No	vpc-039f0b8885204b8f4	252570072185
<b>VPCDay1-Private-RTB</b>	rb-0245c002...	2 subnets	No	vpc-039f0b8885204b8f4	252570072185

Route Table: rtb-02145c00237ed805

Summary Routes Subnet Associations Edge Associations Route Propagation Tags

Edit routes

View All routes

Destination Target Status Propagated

10.64.0.0/16	local	active	No
0.0.0.0/0	nat-0c7cd0e972361ee7d	active	No

Feedback English (US) ▾

© 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use Cookie preferences

## 1.1.7 Utwórz EC2

### 1.1.7.1 Wybierz usługę IAM – Identity Access Management

Route Tables | VPC Management

Services ▾

IAM

Search results for 'IAM'

Services (1)

Features (11)

Documentation (75,513)

Marketplace (204)

IAM

Manage access to AWS resources

Groups

Roles

Policies

Users

Documentation

See all 11 results ▾

ID Owner

a28724db	252570072185
039f0b8885204b8f4	252570072185
039f0b8885204b8f4	252570072185
039f0b8885204b8f4	252570072185

Tags

Propagated

No

No

https://console.aws.amazon.com/iam/home?region=eu-west-1 © 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use Cookie preferences

### 1.1.7.2 Wybierz z lewego menu Roles i Create role

IAM Management Console

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

Services ▾

Identity and Access Management (IAM)

Dashboard

Access management

User groups

Users

**Roles**

Policies

Identity providers

Account settings

Access reports

Access analyzer

Archive rules

Analyzers

Settings

Credential report

Organization activity

Create role Delete role

What are IAM roles?

IAM roles are a secure way to grant permissions to entities that you trust. Examples of entities include the following:

- IAM user in another account
- Application code running on an EC2 instance that needs to perform actions on AWS resources
- An AWS service that needs to act on resources in your account to provide its features
- Users from a corporate directory who use identity federation with SAML

IAM roles issue keys that are valid for short durations, making them a more secure way to grant access.

Additional resources:

- IAM Roles FAQ
- IAM Roles Documentation
- Tutorial: Setting Up Cross Account Access
- Common Scenarios for Roles

Feedback English (US) ▾

https://console.aws.amazon.com/iam/home?region=eu-west-1#roles Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use Cookie preferences

### 1.1.7.3 Wybierz EC2 i Next:Permissions

W wizardzie zaznacz, że tworzysz rolę do użycia dla serwera wirtualnego EC2.

Create role

Select type of trusted entity

AWS service  
EC2, Lambda and others

Another AWS account  
Belonging to you or 3rd party

Web identity  
Cognito or any OpenID provider

SAML 2.0 federation  
Your corporate directory

Allows AWS services to perform actions on your behalf. [Learn more](#)

Choose a use case

Common use cases

EC2  
Allows EC2 instances to call AWS services on your behalf.

Lambda  
Allows Lambda functions to call AWS services on your behalf.

Or select a service to view its use cases

API Gateway    CodeBuild    EMR    IoT SiteWise    RDS  
AWS Backup    CodeDeploy    EMR Containers    IoT Things Graph    Redshift

\* Required    Cancel    Next: Permissions

Feedback English (US) ▾    Privacy Policy    Terms of Use    Cookie preferences

© 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

#### 1.1.7.4 Wybierz standardowy zestaw uprawnień **AmazonSSMManagedInstanceCore**

Jest to zestaw uprawnień pozwalający virtualnej maszynie korzystać z podstawowej funkcjonalności AWS Systems Manager. Tutaj użyjemy funkcji **Connect**.

Create role

Attach permissions policies

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

Create policy

Filter policies ▾    Q ssm    Showing 18 results

Policy name	Used as
AmazonSSMAutomationRole	None
AmazonSSMDirectoryServiceAccess	None
AmazonSSMFullAccess	None
AmazonSSMMaintenanceWindowRole	None
<input checked="" type="checkbox"/> AmazonSSMManagedInstanceCore	None
AmazonSSMPatchAssociation	None
AmazonSSMReadOnlyAccess	None

\* Required    Cancel    Previous    Next: Tags

Feedback English (US) ▾    Privacy Policy    Terms of Use    Cookie preferences

© 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

#### 1.1.7.5 Możesz pominąć nadawanie tagów

Create role

Add tags (optional)

IAM tags are key-value pairs you can add to your role. Tags can include user information, such as an email address, or can be descriptive, such as a title. You can use the tags to organize, track, or control access for this role. [Learn more](#)

Key	Value (optional)	Remove
Add new key		X

You can add 50 more tags.

Cancel    Previous    Next: Review

Feedback English (US) ▾    Privacy Policy    Terms of Use    Cookie preferences

© 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

### 1.1.7.6 Ustal nazwę roli i wybierz Create role

Create role

Review

Provide the required information below and review this role before you create it.

Role name\*  Use alphanumeric and '+-, @-' characters. Maximum 64 characters.

Role description

Maximum 1000 characters. Use alphanumeric and '+-, @-' characters.

Trusted entities AWS service: ec2.amazonaws.com

Policies  AmazonSSMManagedInstanceCore

Permissions boundary Permissions boundary is not set

No tags were added.

\* Required

Cancel Previous Create role

Identity and Access Management (IAM)

Dashboard

Access management

User groups

Users

Roles **Roles**

Policies

Identity providers

Account settings

Access reports

Access analyzer

Archive rules

Analyzers

Settings

Credential report

Organization activity

Service catalog policies

Create role Delete role

Showing 1 result

VPCD

Role name Trusted entities Last activity

VPCDay1-EC2Role AWS service: ec2 None

Feedback English (US) ▾ Privacy Policy Terms of Use Cookie preferences

© 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

### 1.1.7.7 Wybierz w konsoli usługę EC2

★ Favorites

Add favorites by clicking on the star next to the service name.

Recently visited

- IAM
- VPC
- Console Home
- EC2
- CloudFormation
- S3
- Athena
- Step Functions
- Lambda
- EFS
- Elastic Container Se...
- CloudWatch
- Secrets Manager
- RDS
- CloudFront
- Billing

All services

- Compute** 
  - EC2 **Selected**
  - Lightsail
  - Lambda
  - Batch
  - Elastic Beanstalk
  - Serverless Application
  - AWS Outposts
  - EC2 Image Builder
- Customer Enablement
  - AWS IQ
  - Support
- Machine Learning
  - Amazon SageMaker
  - AWS Augment...
  - Amazon CodeGuru
  - Amazon DevOps G...
  - Activate for Startups
  - Amazon Compreh...
  - Amazon Forecast
  - Amazon Fraud Det...
  - Amazon Kendra
  - Amazon Lex
  - Amazon Personalize
  - Amazon Poly
  - Amazon Rekognition
  - Amazon Textract
  - Amazon Transcribe
  - Amazon Translate
  - AWS DeepComposer
  - AWS DeepLens
  - AWS DeepRacer
  - AWS Panorama
- Front-end Web & Mobile
  - AWS Amplify
  - Mobile Hub
  - AWS AppSync
  - Device Farm
  - Amazon Location ...
- Blockchain
- Storage
  - S3
  - EFS
  - S3 Glacier
  - Storage Gateway
  - AWS Backup
- Satellite
  - Ground Station
- Quantum Technologies
  - Amazon Braket
- Machine Learning
- Front-end Web & Mobile
- Blockchain
- Storage
- Satellite
- Quantum Technologies
- Machine Learning
- Front-end Web & Mobile

Feedback English (US) ▾ Privacy Policy Terms of Use Cookie preferences

https://eu-west-1.console.aws.amazon.com/ec2/v2/home?region=eu-west-1

## 1.1.7.8 Wybierz polecenie Launch Instance

The screenshot shows the AWS EC2 Management Console with the 'Launch instance' wizard open. In the center, there's a 'Launch instance' section with a large red box around the 'Launch instance' button. To the right, there's a 'Service health' panel showing 'Europe (Ireland)' with 'This service is operating normally'. Below that is a 'Zones' table.

## 1.1.7.9 Wybierz system operacyjny Amazon Linux 2 AMI

The screenshot shows the 'Choose AMI' step of the launch wizard. It lists several AMI options, with the first one, 'Amazon Linux 2 AMI (HVM, SSD Volume Type - ami-063d44b14480ac177 (64-bit x86) / ami-07563b76f5fe4cd3 (64-bit Arm))', highlighted by a red box and its 'Select' button also highlighted.

## 1.1.7.10 Wybierz model i wielkość maszyny wirtualnej

The screenshot shows the 'Choose Instance Type' step. It displays a table of available instance types under the 't2' family. The 't2.micro' row is highlighted with a red box. At the bottom of the table, there are 'Cancel', 'Previous', 'Review and Launch', and 'Next: Configure Instance Details' buttons.

## 1.1.7.11 Podaj dane do konfiguracji maszyny wirtualnej(1)

- Wybierz VPCDay1
- Wybierz podsieć PublicA
- Wybierz rolę, którą stworzyłeś

**Step 3: Configure Instance Details**

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances	1	Launch into Auto Scaling Group
Purchasing option	<input type="checkbox"/> Request Spot instances	
Network	vpc-0390b885204b8f4   VPCDay1	<input type="button" value="Create new VPC"/>
Subnet	subnet-0f86929d2077fc   PrivateA   eu-west-1a	<input type="button" value="Create new subnet"/> 251 IP Addresses available
Auto-assign Public IP	<input type="checkbox"/> Use subnet setting (Enable)	
Placement group	<input type="checkbox"/> Add instance to placement group	
Capacity Reservation	<input type="button" value="Open"/>	
Domain join directory	<input type="checkbox"/> No directory <input type="button" value="Create new directory"/>	
IAM role	VPCDay1-EC2Role <input type="button" value="Create new IAM role"/>	
Shutdown behavior	<input type="checkbox"/> Stop	
Stop - Hibernate behavior	<input type="checkbox"/> Enable hibernation as an additional stop behavior	
Enable termination protection	<input type="checkbox"/> Protect against accidental termination	
Monitoring	<input type="checkbox"/> Enable CloudWatch detailed monitoring Additional charges apply.	
Tenancy	Shared - Run a shared hardware instance Additional charges will apply for dedicated tenancy.	
Elastic Inference	<input type="checkbox"/> Add an Elastic Inference accelerator Additional charges apply.	

**Cancel Previous Review and Launch Next: Add Storage**

### 1.1.7.12 Podaj dane do konfiguracji maszyny wirtualnej(2)

- Podaj adres 10.64.2.10
- Wybierz Next: Add Storage
- Wybierz gp3

**Step 3: Configure Instance Details**

Elastic Inference  Add an Elastic Inference accelerator  
Additional charges apply.

Credit specification	<input type="checkbox"/> Unlimited	Additional charges may apply												
File systems	<input type="button" value="Add file system"/> <input type="button" value="Create new file system"/>													
Network interfaces	<table border="1"> <thead> <tr> <th>Device</th> <th>Network Interface</th> <th>Subnet</th> <th>Primary IP</th> <th>Secondary IP addresses</th> <th>IPv6 IPs</th> </tr> </thead> <tbody> <tr> <td>ebs</td> <td>New network interface</td> <td>subnet-0f86929d2077fc</td> <td>10.64.2.10</td> <td>99 IP</td> <td>The selected subnet does not support IPv6 because it does not have an IPv6 CIDR.</td> </tr> </tbody> </table>		Device	Network Interface	Subnet	Primary IP	Secondary IP addresses	IPv6 IPs	ebs	New network interface	subnet-0f86929d2077fc	10.64.2.10	99 IP	The selected subnet does not support IPv6 because it does not have an IPv6 CIDR.
Device	Network Interface	Subnet	Primary IP	Secondary IP addresses	IPv6 IPs									
ebs	New network interface	subnet-0f86929d2077fc	10.64.2.10	99 IP	The selected subnet does not support IPv6 because it does not have an IPv6 CIDR.									
Add Device														
Advanced Details	<table border="1"> <tr> <td>Enclose</td> <td><input type="checkbox"/> Enable</td> </tr> <tr> <td>Metadata accessible</td> <td><input type="checkbox"/> Enabled</td> </tr> <tr> <td>Metadata version</td> <td>V1 and V2 (token optional)</td> </tr> <tr> <td>Metadata token response hop limit</td> <td>1</td> </tr> <tr> <td>User data</td> <td><input type="radio"/> As text <input type="radio"/> As file <input type="checkbox"/> Input is already base64 encoded <input type="text" value="Optional"/></td> </tr> </table>		Enclose	<input type="checkbox"/> Enable	Metadata accessible	<input type="checkbox"/> Enabled	Metadata version	V1 and V2 (token optional)	Metadata token response hop limit	1	User data	<input type="radio"/> As text <input type="radio"/> As file <input type="checkbox"/> Input is already base64 encoded <input type="text" value="Optional"/>		
Enclose	<input type="checkbox"/> Enable													
Metadata accessible	<input type="checkbox"/> Enabled													
Metadata version	V1 and V2 (token optional)													
Metadata token response hop limit	1													
User data	<input type="radio"/> As text <input type="radio"/> As file <input type="checkbox"/> Input is already base64 encoded <input type="text" value="Optional"/>													

**Cancel Previous Review and Launch Next: Add Storage**

**Step 4: Add Storage**

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [Learn more about storage options in Amazon EC2.](#)

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/xvda	snap-06d962874a2be4d52	8	General Purpose SSD (gp3)	100	125	<input checked="" type="checkbox"/>	<input type="button" value="Not Encrypted"/>

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more](#) about free usage tier eligibility and usage restrictions.

**Add New Volume**

**Cancel Previous Review and Launch Next: Add Tags**

### 1.1.7.13 Nadaj maszynie nazwę

The screenshot shows the 'Add Tags' step of the AWS Launch Instance wizard. A tag named 'Name' is being added with the value 'Day1-EC2Private'. There is a link to 'Add another tag' at the bottom.

### 1.1.7.14 Skonfiguruj ograniczenia dostępu

The screenshot shows the 'Configure Security Group' step of the AWS Launch Instance wizard. A new security group named 'Day1-SecurityGroup' is being created. A warning message indicates that the AMI requires port 22 to be open, but the current security group does not have it open. An 'Add Rule' button is highlighted.

### 1.1.7.15 Przejrzyj konfigurację i wybierz Launch

The screenshot shows the 'Review Instance Launch' step of the AWS Launch Instance wizard. The configuration details are reviewed, and the 'Launch' button is highlighted at the bottom.

### 1.1.7.16 Nie potrzebujesz kluczy dostępowych

The screenshot shows the 'Step 7: Review Instance Launch' page of the AWS Launch Instance wizard. The main interface includes sections for AMI Details, Instance Type (t2.micro), Security Groups, Instance Details (Storage), and Tags. A modal dialog box is overlaid on the screen, asking the user to select an existing key pair or create a new one. The dialog contains instructions about key pairs and two options: 'Proceed without a key pair' (selected) and 'acknowledge that I will not be able to connect to this instance unless I already know the password built into this AMI'. At the bottom of the dialog are 'Cancel' and 'Launch Instances' buttons.

The screenshot shows the 'Launch Status' page after the instance has been launched. It displays a green success message: 'Your instances are now launching. The following instance launches have been initiated: i-0349cd091d42db396 View launch log'. Below this, there are two notifications: one for 'Estimated charges' and another for 'View instances'. The 'View Instances' button is highlighted at the bottom right of the page.

### 1.1.7.17 W liście maszyn wirtualnych zaznacz swoją i wybierz Connect

The screenshot shows the AWS EC2 Management console's 'Instances' list. An orange box highlights the 'Connect' button next to the instance 'Day1-EC2Private'. The instance details page is shown below, with the 'Details' tab selected. The instance information includes Name: Day1-EC2Private, Instance ID: i-0349cd091d42db396, Instance state: Running, Instance type: t2.micro, Status check: Initializing, Alarm status: No alarms, and Availability Zone: eu-west-1a.

### 1.1.7.18 Wybierz zakładkę Session Manager i Connect

The screenshot shows the 'Connect to instance' page for an EC2 instance. At the top, there are tabs for 'EC2 Instance Connect', 'Session Manager' (which is highlighted in orange), 'SSH client', and 'EC2 Serial Console'. Below the tabs, there's a section titled 'Session Manager usage' with a bulleted list of instructions. At the bottom right are 'Cancel' and 'Connect' buttons.

### 1.1.7.19 Przetestuj połączenie do internetu

Dostałeś się do konsoli maszyny wirtualnej. Przetestuj połączenie z niej do internetu.

Użyj polecenia ping www.example.com

Sprawdź ip z jakim jesteś widoczny w internecie:

```
dig +short myip.opendns.com @resolver1.opendns.com
```

The terminal window shows the output of the 'ping www.example.com' command. It displays several ICMP echo requests being sent to the target host, with details like source IP (93.184.216.34), destination IP (93.184.216.34), sequence number, TTL, time taken, and checksum.

Sprawdź ip z jakim jesteś widoczny w internecie:

```
dig +short myip.opendns.com @resolver1.opendns.com
```

The terminal window shows the output of the 'dig +short myip.opendns.com @resolver1.opendns.com' command. It returns the public IP address 54.217.40.83.

Zwróć uwagę na adres jaki ma przypisany NAT Gateway.

The screenshot shows the 'NAT gateways' page in the AWS VPC Manager. It lists one NAT gateway named 'NATGatewayDay1' with the ID 'nat-0c7cd2e972361ee7d'. The table includes columns for Name, NAT gateway ID, State, State message, Elastic IP address, and Private IP address. The Elastic IP address is listed as 54.217.40.83 and the Private IP address as 10.64.0.6.

## 1.1.8 Użyj skryptu do stworzenia konfiguracji sieciowej

### 1.1.8.1 Wybierz usługę CloudFormation w konsoli AWS

The screenshot shows the AWS Management Console search results for 'CloudFormation'. The search bar at the top contains 'eu-west-1.console.aws.amazon.com/console/home?region=eu-west-1'. The results list 'CloudFormation' under 'Services (1)', which is highlighted with a blue border. Below it, there are sections for 'Features (4)' and 'Documentation (41,713)'. The 'CloudFormation' card provides a brief description: 'Create and Manage Resources with Templates'. It lists 'Top features' including StackSets, Resource import, Stacks, Exports, and Designer. A large 'AWS resources' sidebar on the right side of the page also highlights CloudFormation.

### 1.1.8.2 Wybierz Create stack

The screenshot shows the AWS CloudFormation home page. The main heading is 'AWS CloudFormation' with the subtext 'Model and provision all your cloud infrastructure'. A call-to-action button 'Create stack' is prominently displayed. To the left, there's a section titled 'How it works' featuring a video thumbnail about simplifying infrastructure management using AWS CloudFormation. On the right, there's a 'Getting started' sidebar with links like 'What is AWS CloudFormation?' and 'Learn template basics'.

### 1.1.8.3 Podaj lokalizację wzorca networkingdemo-lab1.yaml

The screenshot shows the 'Create stack' wizard in the AWS CloudFormation console. The current step is 'Step 1 Specify template'. It displays a 'Prerequisite - Prepare template' section with a note that 'Template is ready' (radio button selected). Below it is a 'Specify template' section where the user can choose to 'Upload a template file' (radio button selected), which is highlighted with an orange box. A file input field shows 'networkingdemo-lab1.yaml' has been chosen. At the bottom of the screen, the URL 'S3 URL: https://s3-eu-west-1.amazonaws.com/cf-templates-1vplhr2/q-eu-west-1/2021130evs-networkingdemo-lab1.yaml' is visible.

### 1.1.8.4 Nadaj nazwę i wybierz parametry sieciowe

CloudFormation - Stack

eu-west-1.console.aws.amazon.com/cloudformation/home?region=eu...

CloudFormation Services Search for services, features, marketplace prod. [Option+S] TeamRole/MasterKey @ 2525-7007-2185 Ireland Support

CloudFormation > Stacks > Create stack

Step 1 Specify template

Step 2 Specify stack details

Step 3 Configure stack options

Step 4 Review

### Specify stack details

**Stack name**

Stack name: VPC-Day1-CF  
Stack name can include letters (a-z and a-z), numbers (0-9), and dashes (-).

**Parameters**

Parameters are defined in your template and allow you to input custom values when you create or update a stack.

**VPC Parameters**

AvailabilityZoneA: Availability Zone 1 eu-west-1a

AvailabilityZoneB: Availability Zone 2 eu-west-1b

VPCCIDR: Provide a/16 CIDR space. 10.65.0.0/16

Cancel Previous Next

Feedback English (US) ▾ © 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use Cookie preferences

## 1.1.8.5 Zaakceptuj domyślne ustawienia

CloudFormation - Stack

eu-west-1.console.aws.amazon.com/cloudformation/home?region=eu...

CloudFormation Services Search for services, features, marketplace prod. [Option+S] TeamRole/MasterKey @ 2525-7007-2185 Ireland Support

CloudFormation > Stacks > Create stack

Step 1 Specify template

Step 2 Specify stack details

Step 3 Configure stack options

Step 4 Review

### Configure stack options

**Tags**

You can specify tags (key-value pairs) to apply to resources in your stack. You can add up to 50 unique tags for each stack. [Learn more](#)

Add tag

**Permissions**

Choose an IAM role to explicitly define how CloudFormation can create, modify, or delete resources in the stack. If you don't choose a role, CloudFormation uses permissions based on your user credentials. [Learn more](#)

IAM role - optional

IAM role... Sample-role-name Remove

**Advanced options**

You can set additional options for your stack, like notification options and a stack policy. [Learn more](#)

**Stack policy**

Defines the resources that you want to protect from unintentional updates during a stack update.

**Rollback configuration**

Specify alarms for CloudFormation to monitor when creating and updating the stack. If the operation breaches an alarm threshold, CloudFormation rolls it back. [Learn more](#)

**Notification options**

**Stack creation options**

Cancel Previous Next

Feedback English (US) ▾ © 2008 - 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use Cookie preferences

### 1.1.8.6 Potwierdź utworzenie zasobów w IAM

The screenshot shows the 'Create stack' wizard in the AWS CloudFormation console. The current step is 'IAM settings'. The interface includes:

- Rollback configuration:** Includes fields for 'Monitoring time' and 'CloudWatch alarm ARN'.
- Notification options:** Shows 'No notification options' and a note: 'There are no notification options defined'.
- Stack creation options:** Includes 'Rollback on failure' (Enabled), 'Timeout' (set to 0), and 'Termination protection' (Disabled).
- Capabilities:** A note states: 'The following resource(s) require capabilities: [AWS::IAM::InstanceProfile, AWS::IAM::Role]'. It explains that the template contains IAM resources and requires specific permissions. A checkbox is checked: 'I acknowledge that AWS CloudFormation might create IAM resources with custom names.'

At the bottom are buttons for 'Cancel', 'Previous', 'Create change set', and a large orange 'Create stack' button.

### 1.1.8.7 Zaczekaj na utworzenie wszystkich zasobów

The screenshot shows the 'Stacks' page in the AWS CloudFormation console, displaying the 'VPC-Day1-CF' stack. The stack status is 'CREATE\_IN\_PROGRESS'. The Events section shows one event:

Timestamp	Logical ID	Status	Status reason
2021-05-10 18:41:25 UTC+0200	VPC-Day1-CF	CREATE_IN_PROGRESS	User Initiated

At the bottom are buttons for 'Feedback', 'English (US)', 'Privacy Policy', 'Terms of Use', and 'Cookie preferences'.

### 1.1.8.8 Przejdz do usługi EC2

### 1.1.8.9 Wybierz nową maszynę i przetestuj połączenia jak w pierwszym przypadku.

## 1.1.8.10 Wybierz usługę CloudFormation, utworzony stack i wybierz Delete.

The screenshots illustrate the process of deleting a CloudFormation stack. In the first screenshot, the stack 'VPC-Day1-CF' is shown in the 'CREATE\_COMPLETE' state. In the second screenshot, a delete operation is initiated, changing the status to 'DELETE\_IN\_PROGRESS'. In the third screenshot, the stack has been successfully deleted, indicated by the absence of the stack entry.

## 1.1.8.11 Wybierz usługę EC2, pozostałą maszynę i Terminate instance.

The screenshots illustrate the process of terminating an EC2 instance. In the first screenshot, the instance 'Day1-EC2Private' is running. In the second screenshot, the 'Terminate instance' action is selected. In the third screenshot, the instance is shown as successfully terminated.

Ukończyłeś ćwiczenie!