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Національний технічний університет  
«Дніпровська політехніка»**



**ЗВІТ  
з виконання Практичної роботи  
з дисципліни  
«Аналіз програмного забезпечення»**

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**Дніпро  
2025**

# Практична робота №5

## AWS EC2

**Мета:** Набування навичок у створення і розміщенні статичної веб-сторінки на AWS S3.

**Очікувані результати навчання:** набування навичок у створенні і підключенні до віддаленого комп'ютера за допомогою AWS EC2.

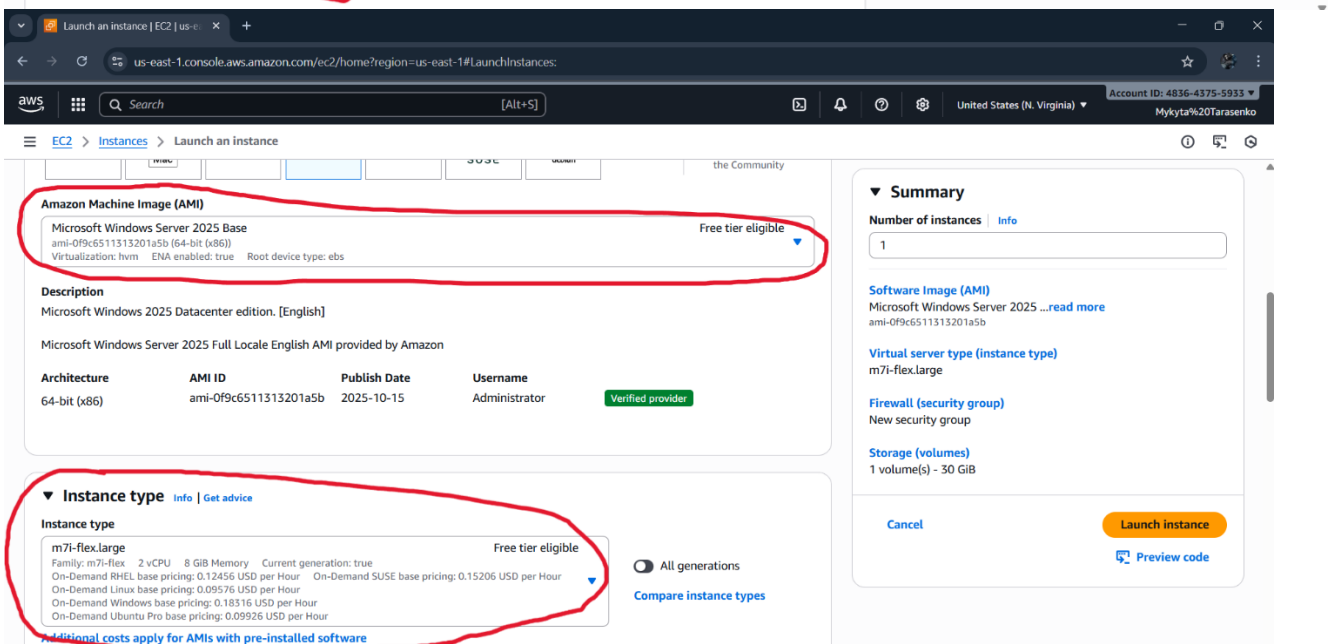
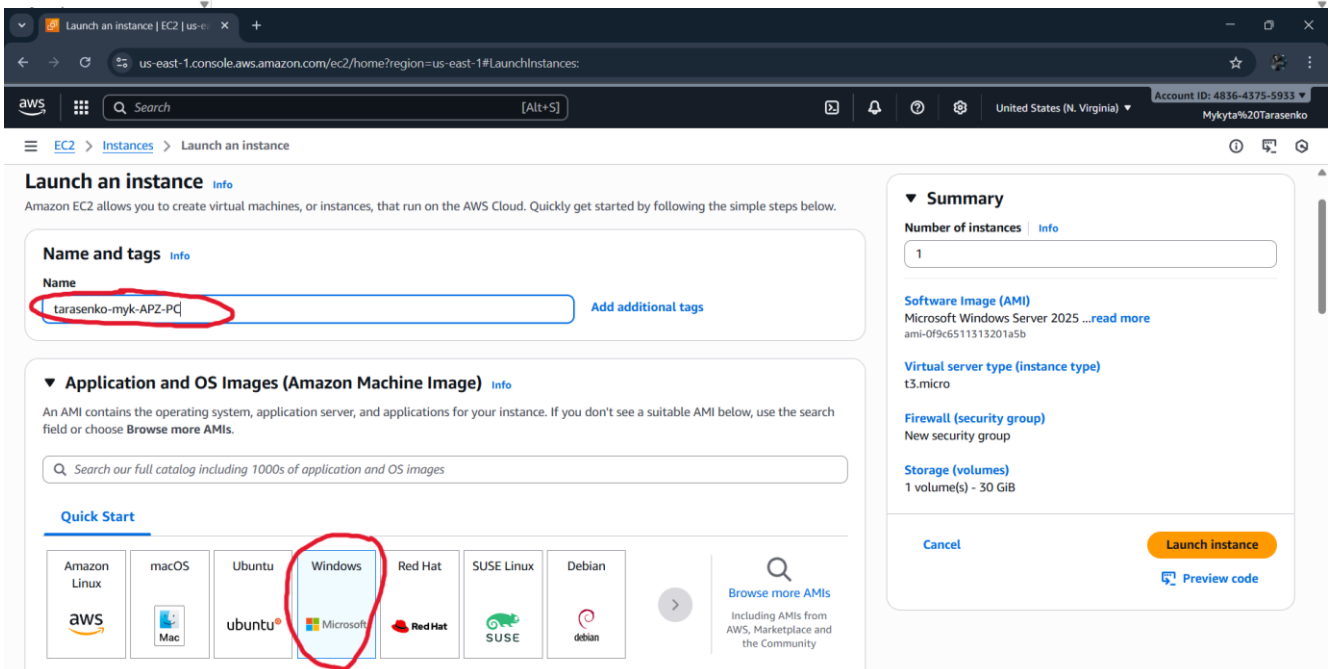
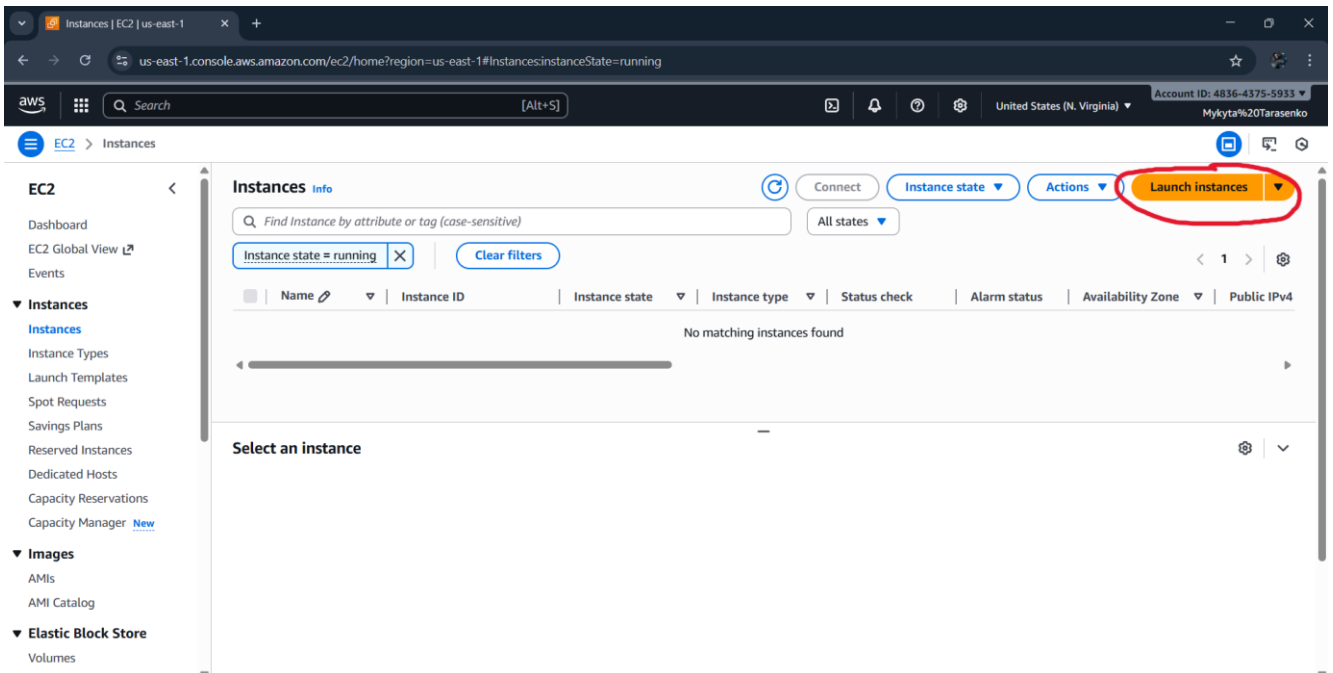
The image displays two screenshots of the AWS Management Console, specifically the Amazon Elastic Compute Cloud (EC2) section.

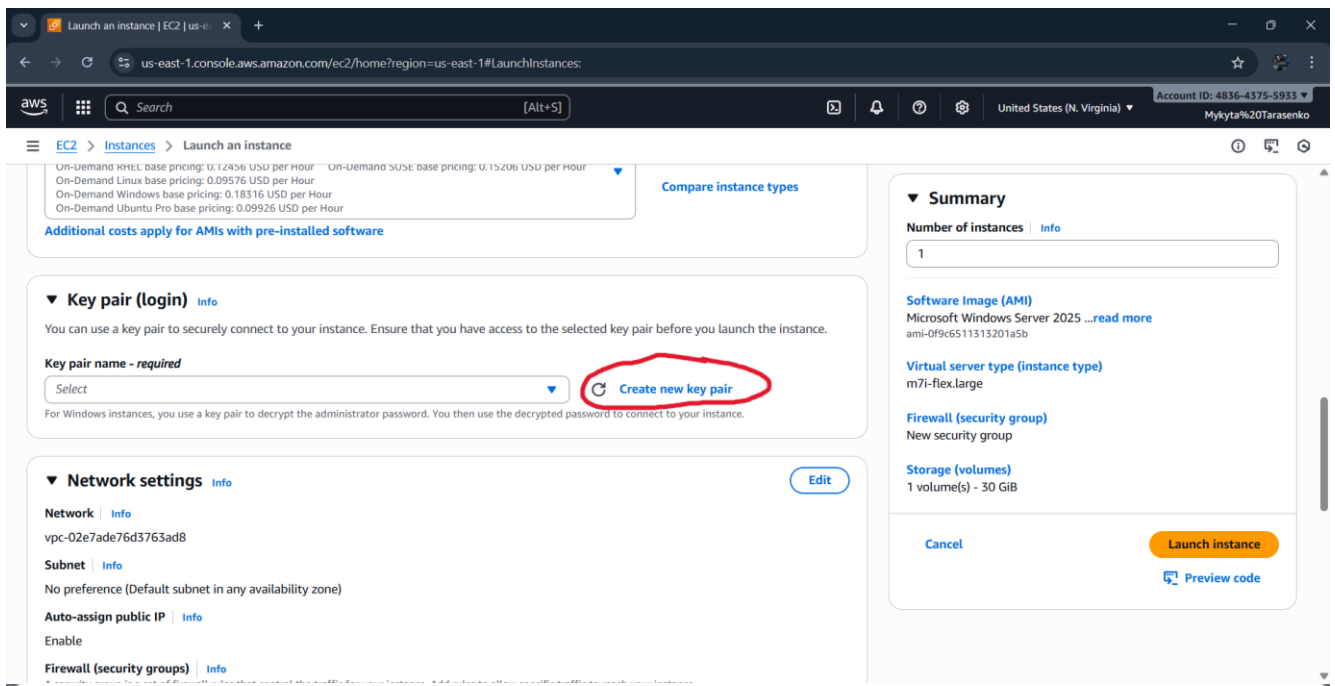
**Top Screenshot: EC2 Dashboard**

- Header:** Shows the AWS logo, a search bar, and the account ID: 4836-4375-5933.
- Left Sidebar:** Contains navigation links for EC2, Dashboard, EC2 Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Capacity Manager, Images, AMIs, AMI Catalog, Elastic Block Store, and Volumes.
- Main Content Area:**
  - Compute Section:** Features the heading "Amazon Elastic Compute Cloud (EC2)" and the subtext "Create, manage, and monitor virtual servers in the cloud." Below this, it states: "Amazon Elastic Compute Cloud (Amazon EC2) offers the broadest and deepest compute platform, with over 600 instance types and a choice of the latest processors, storage, networking, operating systems, and purchase models to help you best match the needs of your workload."
  - Launch a virtual server:** A call-to-action box with buttons for "Launch instance" (highlighted with a red circle), "View dashboard" (highlighted with a red circle), "Get started walkthroughs", and "Get started tutorial".
  - Benefits and features:** A section titled "EC2 offers ultimate scalability and control" with a bulleted list: "Highest level of control of the entire technology stack, allowing full integration with all AWS services", "Widest variety of server size options", "Widest availability of operating systems to choose from including Linux, Windows, and macOS", and "Global scalability".
  - Additional actions:** Links for "View running instances" and "Migrate a server".
  - Pricing (US):** A section for pricing information.

**Bottom Screenshot: EC2 Resources Page**

- Header:** Shows the AWS logo, a search bar, and the account ID: 4836-4375-5933.
- Left Sidebar:** Similar to the top screenshot, but with "Dashboard" selected under EC2.
- Main Content Area:**
  - Resources:** A section titled "You are using the following Amazon EC2 resources in the United States (N. Virginia) Region:" containing a table of resources and their counts. The "Instances (running)" row is highlighted with a red circle.
  - Launch instance:** A section with a "Launch instance" button (highlighted with a red circle) and a "Migrate a server" link. Below it, a note states: "Note: Your instances will launch in the United States (N. Virginia) Region".
  - Service health:** A section titled "AWS Health Dashboard" showing the status of the service. The status is "This service is operating normally.".
  - EC2 cost:** A section showing the "Date range: Past 6 months", "Region: Global", "Credits remaining: \$100 USD", and "Days remaining: 171 (May 3, 2026)".





## Create key pair

### Key pair name

Key pairs allow you to connect to your instance securely.

keyTarasMykAPZ

The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

### Key pair type



RSA

RSA encrypted private and public key pair



ED25519

ED25519 encrypted private and public key pair (Not supported for Windows instances)

### Private key file format



.pem

For use with OpenSSH



.ppk

For use with PuTTY



When prompted, store the private key in a secure and accessible location on your computer. **You will need it later to connect to your instance.** [Learn more](#)

Cancel

Create key pair

Launch an instance | EC2 | us-east-1

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:

EC2 > Instances > Launch an instance

### Key pair (login) [Info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

**Key pair name - required**

keyTarasMykAPZ [Create new key pair](#)

For Windows instances, you use a key pair to decrypt the administrator password. You then use the decrypted password to connect to your instance.

### Network settings [Info](#) [Edit](#)

**Network** [Info](#)  
vpc-02e7ade76d3763ad8

**Subnet** [Info](#)  
No preference (Default subnet in any availability zone)

**Auto-assign public IP** [Info](#)  
Enable

**Firewall (security groups)** [Info](#)  
A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☒ Create security group ☐ Select existing security group

We'll create a new security group called 'launch-wizard-1' with the following rules:

### Summary

**Number of instances** [Info](#)  
1

**Software Image (AMI)**  
Microsoft Windows Server 2025 ...[read more](#)  
ami-0f9c6511313201a5b

**Virtual server type (instance type)**  
m7i-flex.large

**Firewall (security group)**  
New security group

**Storage (volumes)**  
1 volume(s) - 30 GiB

[Cancel](#) [Launch instance](#) [Preview code](#)

Launch an instance | EC2 | us-east-1

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:

EC2 > Instances > Launch an instance

☒ Create security group ☐ Select existing security group

We'll create a new security group called 'launch-wizard-1' with the following rules:

☒ Allow RDP traffic from  
Helps you connect to your instance  
Anywhere  
0.0.0.0/0

☐ Allow HTTPS traffic from the internet  
To set up an endpoint, for example when creating a web server

☐ Allow HTTP traffic from the internet  
To set up an endpoint, for example when creating a web server

**Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.**

### Configure storage [Info](#) [Advanced](#)

1x 30 GiB gp3 Root volume, 3000 IOPS, Not encrypted

[Add new volume](#)

The selected AMI contains instance store volumes, however the instance does not allow any instance store volumes. None of the instance store volumes from the AMI will be accessible from the instance.

[Click refresh to view backup information](#)

The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.

0 x File systems [Edit](#)

### Summary

**Number of instances** [Info](#)  
1

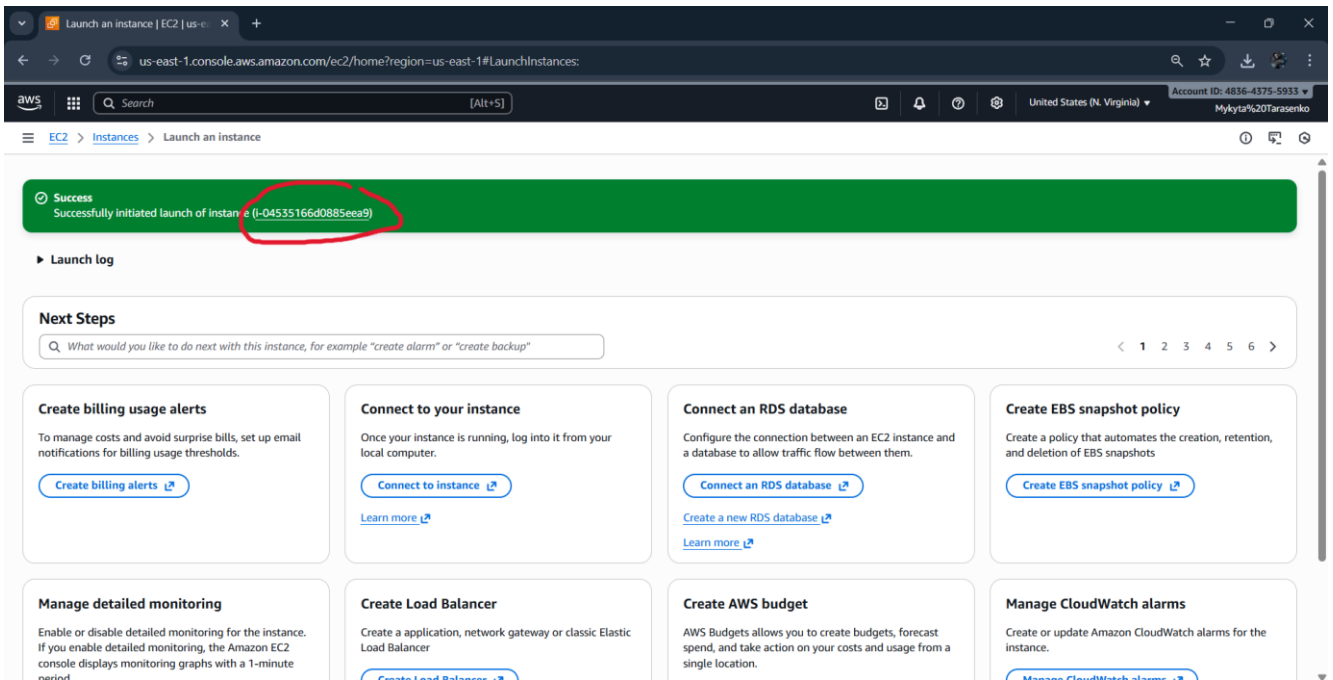
**Software Image (AMI)**  
Microsoft Windows Server 2025 ...[read more](#)  
ami-0f9c6511313201a5b

**Virtual server type (instance type)**  
m7i-flex.large

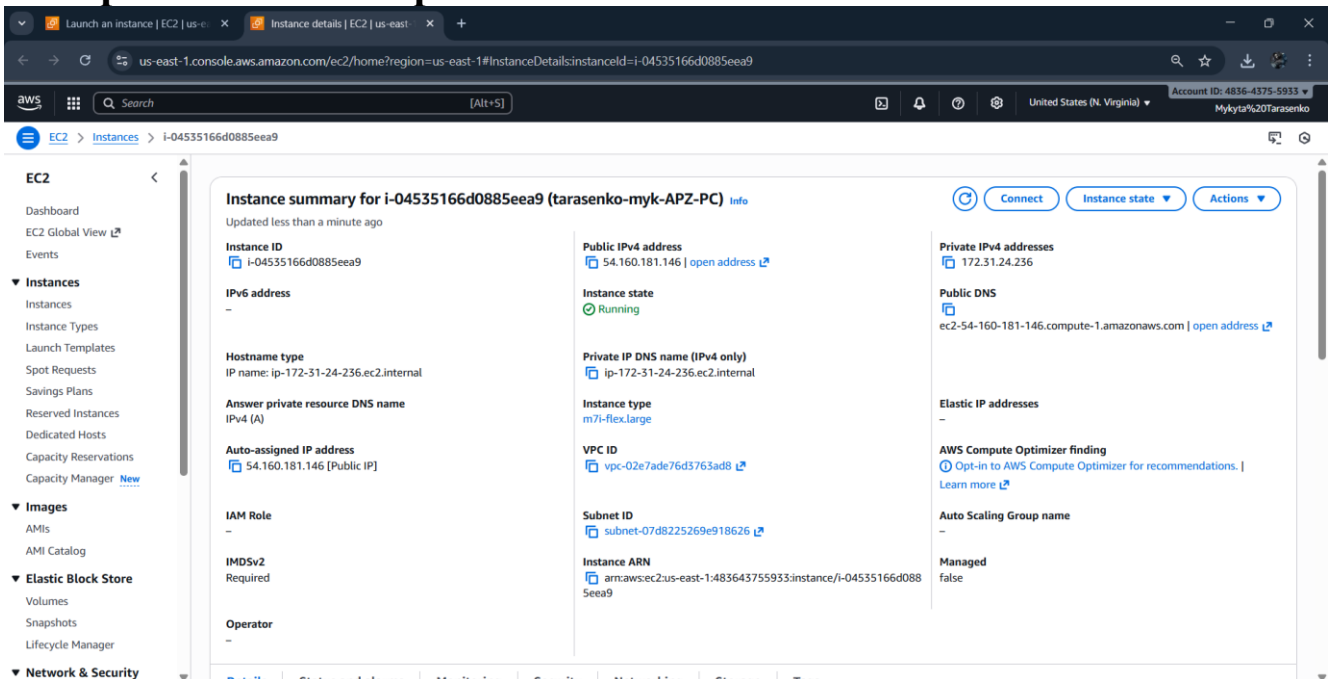
**Firewall (security group)**  
New security group

**Storage (volumes)**  
1 volume(s) - 30 GiB

[Cancel](#) [Launch instance](#) [Preview code](#)



## Створений комп'ютер



Details

Status and alarms

Monitoring

Security

Networking

Storage

Tags

▼ Instance details Info

AMI ID

ami-0f9c6511313201a5b

AMI name

Windows\_Server-2025-English-Full-Base-2025.10.15

Stop protection

Disabled

Instance reboot migration

Default (On)

Stop-hibernate behavior

Disabled

State transition reason

-

State transition message

-

Owner

483643755933

Current instance boot mode

uefi

Answer RBN DNS hostname IPv4

Enabled

Monitoring

disabled

Allowed image

-

Launch time

Thu Nov 13 2025 16:47:33 GMT+0200 (Восточная Европа, стандартное вр  
eur) (2 minutes)

Instance auto-recovery

Default

AMI Launch index

0

Credit specification

Not supported by instance type

Usage operation

RunInstances:0002

Enclaves Support

Disabled

Allow tags in instance metadata

Disabled

Platform details

Windows

Termination protection

Disabled

AMI location

amazon/Windows\_Server-2025-English-Full-Base-2025.10.15

Lifecycle

normal

Key pair assigned at launch

keyTarasMykAPZ

Kernel ID

-

RAM disk ID

-

Boot mode

uefi

Use RBN as guest OS hostname

Disabled

▼ Host and placement group Info

Host ID

-

Host resource group name

-

Virtualization type

hvm

Number of vCPUs

2

Affinity

-

Tenancy

default

Reservation

r-0e2eae3d9b0f237e2

Placement group

-

Placement group ID

-

Partition number

-

▼ Capacity reservation Info

Capacity Reservation ID

-

Capacity Reservation setting

open

## Підключення до створеного комп'ютера

Launch an instance | EC2 | us-e

Instance details | EC2 | us-east

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#InstanceDetails:instanceId=i-04535166d0885eea9

aws

Search

[Alt+S]

United States (N. Virginia)

Account ID: 4836-4375-5933

Mykyta%20Tarasenko

EC2

Dashboard

EC2 Global View

Events

▼ Instances

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity Reservations

Capacity Manager

▼ Images

AMIs

AMI Catalog

▼ Elastic Block Store

Volumes

Instance summary for i-04535166d0885eea9 (tarasenko-myk-APZ-PC) [Info](#)

Updated 19 minutes ago

Instance ID

i-04535166d0885eea9

IPv6 address

-

Hostname type

IP name: ip-172-31-24-236.ec2.internal

Answer private resource DNS name

IPv4 (A)

Auto-assigned IP address

54.160.181.146 [Public IP]

IAM Role

-

IMDSv2

Required

Public IPv4 address

54.160.181.146 [open address](#)

Instance state

Running

Private IP DNS name (IPv4 only)

ip-172-31-24-236.ec2.internal

Instance type

m7i-flex.large

VPC ID

vpc-02e7ade76d3763ad8

Subnet ID

subnet-07d8225269e918626

Instance ARN

arn:aws:ec2:us-east-1:483643755933:instance/i-04535

Private IPv4 addresses

172.31.24.236

Public DNS

ec2-54-160-181-146.compute-1.amazonaws.com [open address](#)

Elastic IP addresses

-

AWS Compute Optimizer finding

Opt-in to AWS Compute Optimizer for recommendation s. [Learn more](#)

Auto Scaling Group name

-

Managed

false

Connect

Instance state

Actions

Launch an instance | EC2 | us-east-1 | Instance details | EC2 | us-east-1 | i-04535166d0885eea9

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#InstanceDetails:instanceId=i-04535166d0885eea9

EC2 > Instances > i-04535166d0885eea9

### Instance summary for i-04535166d0885eea9 (tarasenko-myk-APZ-PC)

Updated 22 minutes ago

|  |  |  |
|--|--|--|
| <b>Instance ID</b><br>i-04535166d0885eea9                      | <b>Public IPv4 address</b><br>54.160.181.146   <a href="#">open address</a>            | <b>Private IPv4 address</b><br>172.31.24.236 |
| <b>IPv6 address</b><br>-                                       | <b>Instance state</b><br>Running   | <b>Change security groups</b>                |
| <b>Hostname type</b><br>IP name: ip-172-31-24-236.ec2.internal | <b>Private IP DNS name (IPv4 only)</b><br>ip-172-31-24-236.ec2.internal                | <b>Get Windows password</b>                  |
| <b>Answer private resource DNS name</b><br>IPv4 (A)            | <b>Instance type</b><br>m7i-flex.large   | <b>Modify IAM role</b>                       |
| <b>Auto-assigned IP address</b><br>54.160.181.146 [Public IP]  | <b>VPC ID</b><br>vpc-02e7ade76d3763ad8   | <b>Instance diagnostics</b>                  |
| <b>IAM Role</b><br>-   | <b>Subnet ID</b><br>subnet-07d8225269e918626   | <b>Instance settings</b>                     |
| <b>IMDSv2</b><br>Required                                      | <b>Instance ARN</b><br>arn:aws:ec2:us-east-1:483643755933:instance/i-04535166d0885eea9 | <b>Networking</b>                            |
|  |  | <b>Security</b>                              |
|  |  | <b>Image and templates</b>                   |
|  |  | <b>Storage</b>                               |
|  |  | <b>Monitor and troubleshoot</b>              |

**Elastic IP addresses**  
-

**AWS Compute Optimizer finding**  
Opt-in to AWS Compute Optimizer for recommendation s. | [Learn more](#)

**Auto Scaling Group name**  
-

**Managed**  
false

Launch an instance | EC2 | us-east-1 | Get windows password | EC2 | us-east-1 | i-04535166d0885eea9

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#GetWindowsPassword:instanceId=i-04535166d0885eea9

EC2 > Instances > i-04535166d0885eea9 > Get Windows password

Use your private key to retrieve and decrypt the initial Windows administrator password for this instance.

**Instance ID**  
i-04535166d0885eea9 (tarasenko-myk-APZ-PC)

**Key pair associated with this instance**  
keyTarasMykAPZ

**Private key**  
Either upload your private key file or copy and paste its contents into the field below.

[Upload private key file](#)

keyTarasMykAPZ.pem  
1.68 KB

**Private key contents**

```
-----BEGIN RSA PRIVATE KEY-----
MIIEpAIBAAKCAQEA8ag719jTVNmpkA1+11zRhy8RUFrgGR/HKWmWGlyY3scP52Ap
u1MYwzaqVDpaoTJJUgQH5DVWo2pOQIGR6OoGb61MPJYMrF7noTeoK/KYt7UIHucf
emSAyCybxvE9Pdrto7CfoaKDEPFave8Gh8o9QH9GXxbGEKVOHnllg2ZKtD3JJAfp
2xfmVfynazq+ZcNN/v+Z4pUI949ObZ6y29W28zd7RmrcMpd5K+bjHeEOBdZqscDO
bwyQ0hA/Ho6Ebx+I4RhrGKg4IzyGGeCtzDd8lkfEi6eN3llvCf8xxB3CFsHLC/o5
JfGohf/PHd0QtCaxHJkbeIXscpVoMN4/u9CQIDAQABAQACBqV7Spchekptka
5juqHLUKgb3Motjb6WRFtlUqelURoLGBtdZ+y1cbNaliTtHFwzDfka7C59ssy
-----
```

[Cancel](#) [Decrypt password](#)



# Get Windows password



Connect to your Windows instance using Remote Desktop with this information.

## Instance ID

i-04535166d0885eea9 (tarasenko-myk-APZ-PC)

## Private IP address

172.31.24.236

## Username

Administrator

## Password

-wp!VrHTbjsb2(;AiPLQbnWPr7sNJ&Qu

### Password change recommended

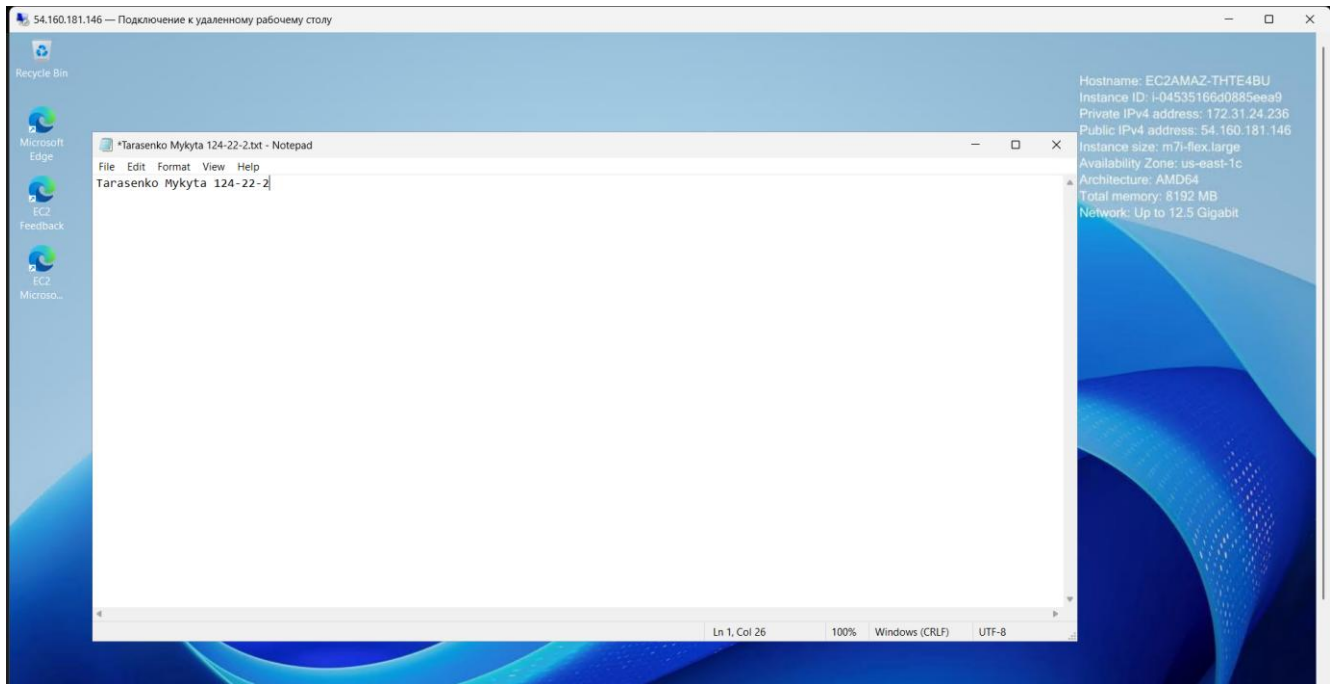
We recommend that you change your default password. Note: If a default password is changed, it cannot be retrieved using this tool. It is important that you change your password to one that you will remember.

Cancel

OK

## Результат роботи:

The screenshot shows the AWS Management Console interface. On the left is a navigation menu with options like Dashboard, EC2 Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, and Capacity Manager. The main area displays the 'Instances (1/1)' page. A table lists the instance 'tarasenko-myk-APZ-PC' with ID 'i-04535166d0885eea9', state 'Running', type 'm7i-flex.large', and public IP 'ec2-54-160-181-146'. Below the table, the 'Details' tab is selected, showing the 'Instance summary' with fields for Instance ID, Public IPv4 address (54.160.181.146), Private IPv4 addresses (172.31.24.236), Instance state (Running), and Public DNS (ec2-54-160-181-146.compute-1.amazonaws.com).



## IP

54.160.181.146

## Username

Administrator

## Password

-wp!VrHTbjsb2(;AiPLQbnWPr7sNJ&Qu