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Національний технічний університет
«Дніпровська політехніка»**



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

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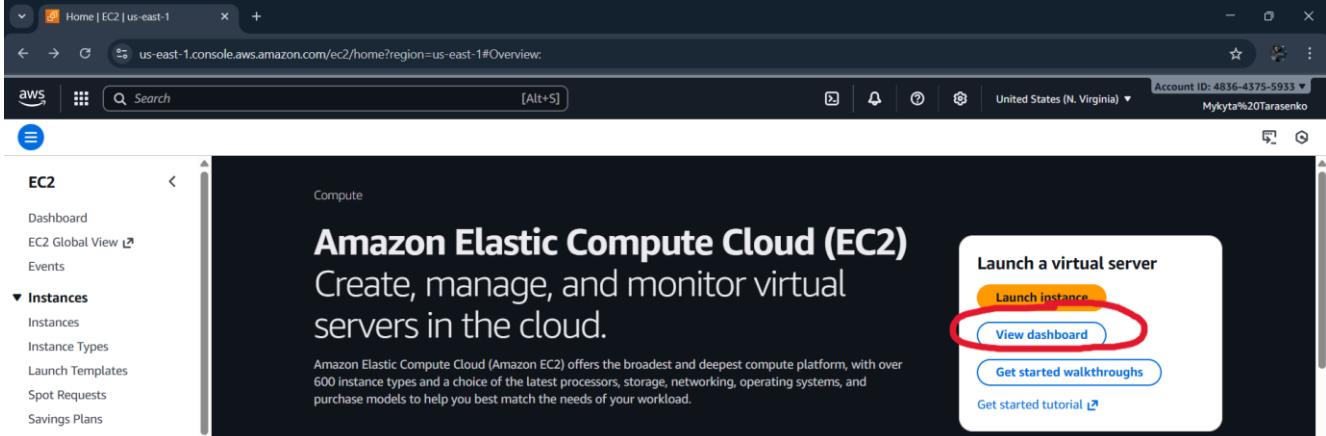
**Дніпро
2025**

Практична робота №5

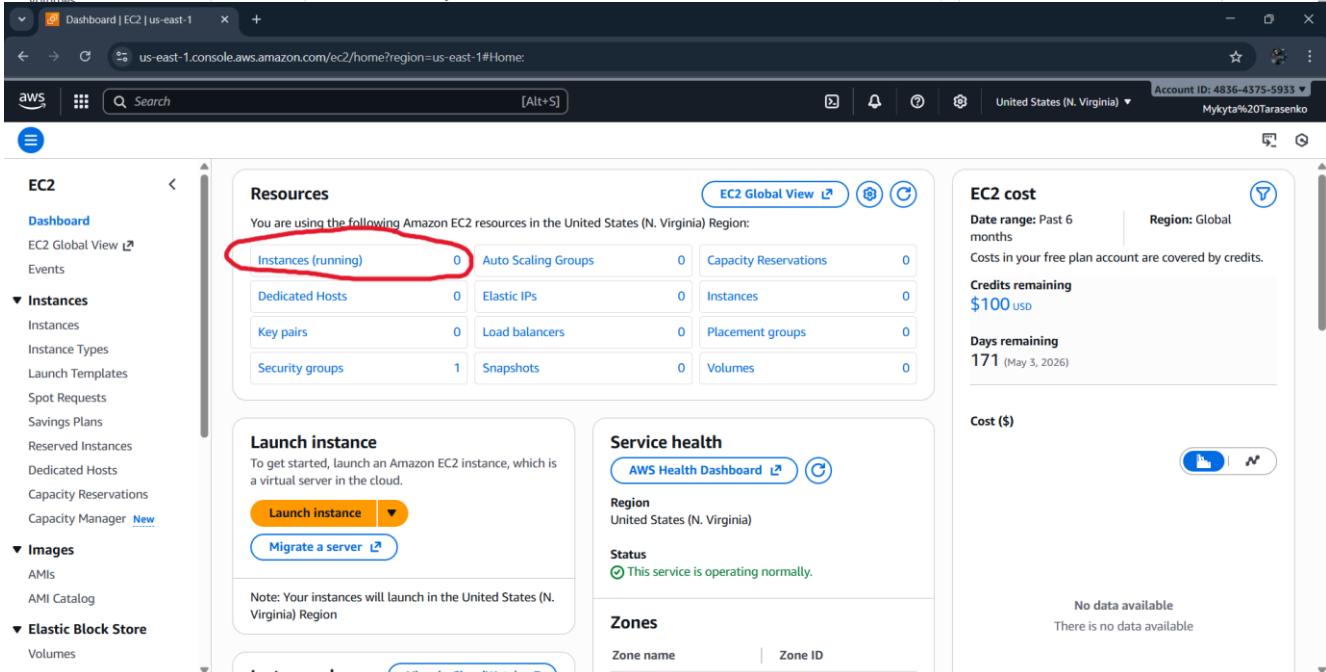
AWS EC2

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

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



The screenshot shows the AWS EC2 Home page. On the left, a sidebar menu includes 'Instances' (selected), 'Images', and 'Elastic Block Store'. The main content area features the heading 'Amazon Elastic Compute Cloud (EC2)' and a call-to-action button 'Launch a virtual server' which is circled in red. Other buttons include 'View dashboard', 'Get started walkthroughs', and 'Get started tutorial'.



The screenshot shows the AWS EC2 Dashboard. The sidebar menu is identical to the previous screen. The main content area features a 'Resources' section with a table showing counts for various EC2 components. The 'Instances (running)' link is circled in red. Other sections include 'Launch instance', 'Service health' (showing 'This service is operating normally'), and 'Cost (\$)'.

Instances | EC2 | us-east-1

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

EC2 Instances

Launch instances (highlighted)

Instances Info

Find Instance by attribute or tag (case-sensitive)

Instance state = running | Clear filters

All states

EC2 Instances

- Dashboard
- EC2 Global View
- Events
- Instances
- Instance Types
- Launch Templates
- Spot Requests
- Savings Plans
- Reserved Instances
- Dedicated Hosts
- Capacity Reservations
- Capacity Manager New

Images

- AMIs
- AMI Catalog

Elastic Block Store

- Volumes

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

Launch an instance

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags

Name: **tarasenko-myk-APZ-PC** (highlighted)

Add additional tags

Application and OS Images (Amazon Machine Image)

An AMI contains the operating system, application server, and applications for your instance. If you don't see a suitable AMI below, use the search field or choose **Browse more AMIs**.

Search our full catalog including 1000s of application and OS images

Quick Start

Amazon Linux, macOS, Ubuntu, Windows (highlighted), Red Hat, SUSE Linux, Debian

Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

Summary

Number of instances: 1

Software Image (AMI): Microsoft Windows Server 2025 ...[read more](#)

ami-09c6511313201a5b

Virtual server type (instance type): t3.micro

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

Amazon Machine Image (AMI)

Microsoft Windows Server 2025 Base
ami-09c6511313201a5b (64-bit (x86))
Virtualization: hvm ENA enabled: true Root device type: ebs

Free tier eligible

Description

Microsoft Windows 2025 Datacenter edition. [English]

Microsoft Windows Server 2025 Full Locale English AMI provided by Amazon

Architecture	AMI ID	Publish Date	Username
64-bit (x86)	ami-09c6511313201a5b	2025-10-15	Administrator

Verified provider

Summary

Number of instances: 1

Software Image (AMI): Microsoft Windows Server 2025 ...[read more](#)

ami-09c6511313201a5b

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

Instance type

m7i-flex.large

Family: m7i-flex 2 vCPU 8 GiB Memory Current generation: true

On-Demand RHEL base pricing: 0.12456 USD per Hour On-Demand SUSE base pricing: 0.15206 USD per Hour

On-Demand Windows base pricing: 0.09576 USD per Hour

On-Demand Ubuntu Pro base pricing: 0.09926 USD per Hour

Additional costs apply for AMIs with pre-installed software

The screenshot shows the AWS EC2 'Launch an instance' wizard. In the 'Network settings' section, the 'Subnet' dropdown is highlighted with a red circle. Below it, the 'Create new key pair' button is also circled in red.

Create key pair



Key pair name

Key pairs allow you to connect to your instance securely.

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:

AWS Search [Alt+S] Account ID: 4836-4375-5933 Mykta%20Tarasenko

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-02e7ade76d3763adb
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

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 anywhere Helps you connect to your instance
 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

Success
Successfully initiated launch of instance i-04535166d0885eea9

Launch log

Next Steps

What would you like to do next with this instance, for example "create alarm" or "create backup"

Create billing usage alerts
To manage costs and avoid surprise bills, set up email notifications for billing usage thresholds.
[Create billing alerts](#)

Connect to your instance
Once your instance is running, log into it from your local computer.
[Connect to instance](#)
[Learn more](#)

Connect an RDS database
Configure the connection between an EC2 instance and a database to allow traffic flow between them.
[Connect an RDS database](#)
[Create a new RDS database](#)
[Learn more](#)

Create EBS snapshot policy
Create a policy that automates the creation, retention, and deletion of EBS snapshots.
[Create EBS snapshot policy](#)

Manage detailed monitoring
Enable or disable detailed monitoring for the instance. If you enable detailed monitoring, the Amazon EC2 console displays monitoring graphs with a 1-minute period.
[Create CloudWatch Metrics](#)

Create Load Balancer
Create a application, network gateway or classic Elastic Load Balancer.
[Create Load Balancer](#)

Create AWS budget
AWS Budgets allows you to create budgets, forecast spend, and take action on your costs and usage from a single location.
[Create AWS Budget](#)

Manage CloudWatch alarms
Create or update Amazon CloudWatch alarms for the instance.
[Create CloudWatch alarms](#)

Створений комп'ютер

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

Updated less than a minute ago

Instance ID	i-04535166d0885eea9	Public IPv4 address	54.160.181.146 open address
IPv6 address	-	Instance state	Running
Hostname type	IP name: ip-172-31-24-236.ec2.internal	Private IP DNS name (IPv4 only)	ip-172-31-24-236.ec2.internal
Answer private resource DNS name	IPv4 (A)	Instance type	m7i1xlarge
Auto-assigned IP address	54.160.181.146 [Public IP]	VPC ID	vpc-02e7ade76d3763ad8
IAM Role	-	Subnet ID	subnet-07d8225269e918626
IMDSv2	Required	Instance ARN	arn:aws:ec2:us-east-1:483643755933:instance/i-04535166d0885eea9
Operator	-	Auto Scaling Group name	-

Details	Status and alarms	Monitoring	Security	Networking	Storage	Tags
▼ Instance details Info						
AMI ID ami-0f9c6511513201a5b	Monitoring disabled	Allowed image -	Platform details Windows			
AMI name Windows_Server-2025-English-Full-Base-2025.10.15	Launch time Thu Nov 13 2025 16:47:33 GMT+0200 (Восточная Европа, стандартное время) (2 minutes)	Termination protection Disabled	AMI location amazon/Windows_Server-2025-English-Full-Base-2025.10.15			
Stop protection Disabled	Instance auto-recovery Default	Lifecycle normal				
Instance reboot migration Default (On)	AMI Launch index 0	Key pair assigned at launch keyTarasMykAPZ				
Stop-hibernate behavior Disabled	Credit specification Not supported by instance type	Kernel ID -				
State transition reason -	Usage operation RunInstances:0002	RAM disk ID -				
State transition message -	Enclaves Support Disabled	Boot mode uefi				
Owner 483643755933	Allow tags in instance metadata Disabled	Use RBN as guest OS hostname Disabled				
Current instance boot mode uefi						
Answer RBN DNS hostname IPv4 Enabled						
▼ Host and placement group Info						
Host ID -	Affinity -	Placement group -				
Host resource group name -	Tenancy default	Placement group ID -				
Virtualization type hvm	Reservation r-0e2ea5d9b0f237e2	Partition number -				
Number of vCPUs 2						
▼ Capacity reservation Info						
Capacity Reservation ID -	Capacity Reservation setting open					

Підключення до створеного комп'ютера

The screenshot shows the AWS EC2 Instances page with the following details for instance [i-04535166d0885eea9](#):

- Public IPv4 address:** [54.160.181.146](#) (highlighted with a red circle)
- 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-04535166d0885eea9](#)
- Auto Scaling Group name:** Managed (false)

The left sidebar shows navigation links for EC2, Instances, Images, and Elastic Block Store.

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

Updated 22 minutes ago

Category	Value
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](#)

Private IP4 address: 172.31.24.236

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-04535166d0885eea9

Elastic IP addresses: -

AWS Compute Optimizer finding: Opt-in to AWS Compute Optimizer for recommendations | Learn more

Auto Scaling Group name: -

Managed: false

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-----
MIIEpaIBAAKCAQEAsag719jTVNmpkA1+1zRhyBRUFRgGR/HKWmWGlyY3scP52Ap
u1MwzaqVDpaoTJu9QH5DVW0zpqQIGR6OoGb61MPjYMf7noTeok/KY7UihUcf
em5AyCylxE9Pdr7CfaKDEPFave8Gh8o9QH9GxbGEKV0Hnlg2ZKD3JJAfp
2xfrMfyNazq+2cNN/+24pUi949obZ6y29W28zd7RMrcMpDsk+bjHeEOBdzqsCD
bwYQ0hA/Ho6Exx+14RHrGKg4LzyCGeCtzD8lkfEl6eN3llvCf8xxB3CFshIC/o5
JfGohf/PHd0QtAxHJlkbelIxscVoMN4/u9CQIDAQABaoIBACBqv75pcheptka
SjuqHLUkgb3Motjb6WRftluQelURoLGbtbdZ+y1cbNalITtHFwzDDfxa7CS9ssy
```

[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

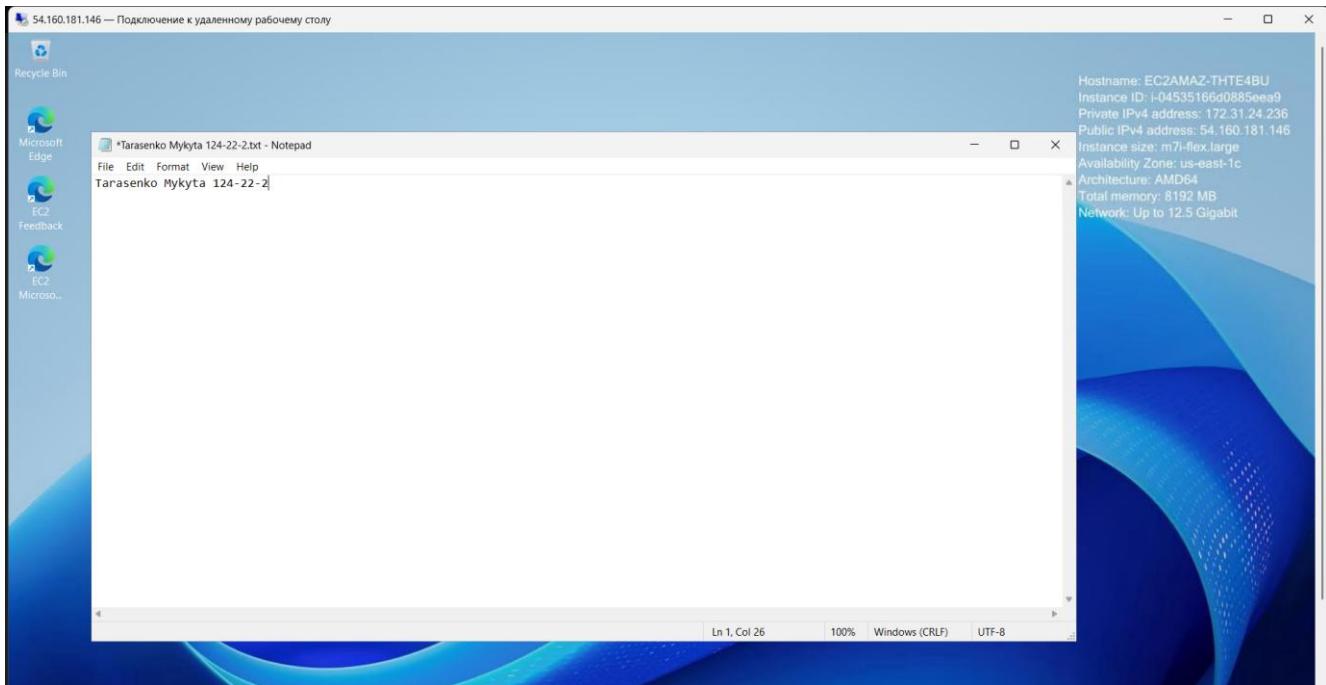
We recommend that you change your default password. Note: If a default password is changed, it cannot be retrieved using this tool. It is important that you change your password to one that you will remember.

Cancel

OK

Результат роботи:

The screenshot shows the AWS EC2 Instances page. On the left, there's a sidebar with navigation links like 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, and Elastic Block Store. The main area has a title 'Instances (1/1) Info' with a search bar and filters for Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone, and Public IPv4. A single instance is listed: 'tarasenko-my...' (Instance ID: i-04535166d0885eea9), which is 'Running'. Below the table, there's a detailed view for the selected instance, showing its summary, public and private IP addresses, and public DNS. At the bottom right of the main area, there are 'Details', 'Status and alarms', 'Monitoring', 'Security', 'Networking', 'Storage', and 'Tags' tabs.



IP

54.160.181.146

Username

Administrator

Password

-wp!VrHTbjsb2(;AiPLQbnWPr7sNJ&Qu