

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ

Національний технічний університет «Дніпровська політехніка»



Кафедра програмного забезпечення комп'ютерних систем

## Звіт з практичних робіт

з дисципліни:

«Розробка програмного забезпечення для мобільних пристройів»

Виконав: ст.гр. 122-23ск-1

Батишний Дмитро Віталійович

Перевірив:

Дніпро

2025

## Практична робота №1

### Створення ЕЦП

Створили PDF документ з таким написом.

Я студент групи 122-23ск-1 Дмитро Батишний, і я навчаюсь з дому. Ще я маю чотирьох котів.

Підписали документ з допомогою Дія Підпис. Сервіс рекомендував формат ASiC-E, який ми і узяли для результату.

## Підписати та зберегти

### Що таке ASiC?

👉 Рекомендуємо підписувати документи у форматі ASiC-E.

Це уніфікований формат електронного документообігу, який гарантує, що ваші документи прийматимуть всі держоргани.

Так, підписати в форматі ASiC-E

Ні, обрати інший формат

Перевірили статус підпису через сервіси Дії.

👉 **Файл успішно перевірено. Усі дані цілі**

Ви можете зберегти підписаний файл.

↳ Завантажити все архівом

✉ **Файл з підписом**

АПЗ ПР1 ЕЦП.pdf.asice

96.4 КБ

✉ **Файли без підпису (архів)**

АПЗ ПР1 ЕЦП.pdf.zip

91.0 КБ

✉ **Протокол створення та перевірки кваліфікованого електронного підпису від  
24.09.2025**

АПЗ ПР1 ЕЦП.pdf\_Validation\_Report.pdf

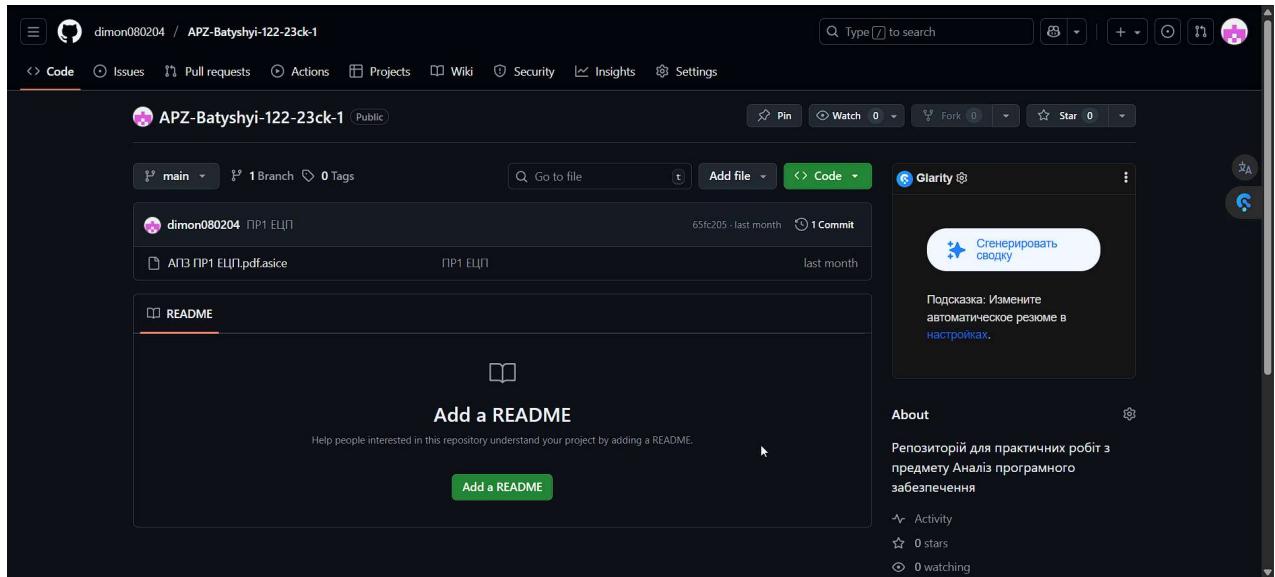
96.4 КБ

Результат роботи завантажили на Git Hub.

## Практична робота №2

### Створення і налаштування профілю у системі Git.

Профіль Git Hub вже було створено, Профіль Git Hub вже було створено, результат виконання Практичної роботи №1 завантажили до репозиторію за посиланням: <https://github.com/dimon080204/APZ-Batyshyi-122-23ck-1>

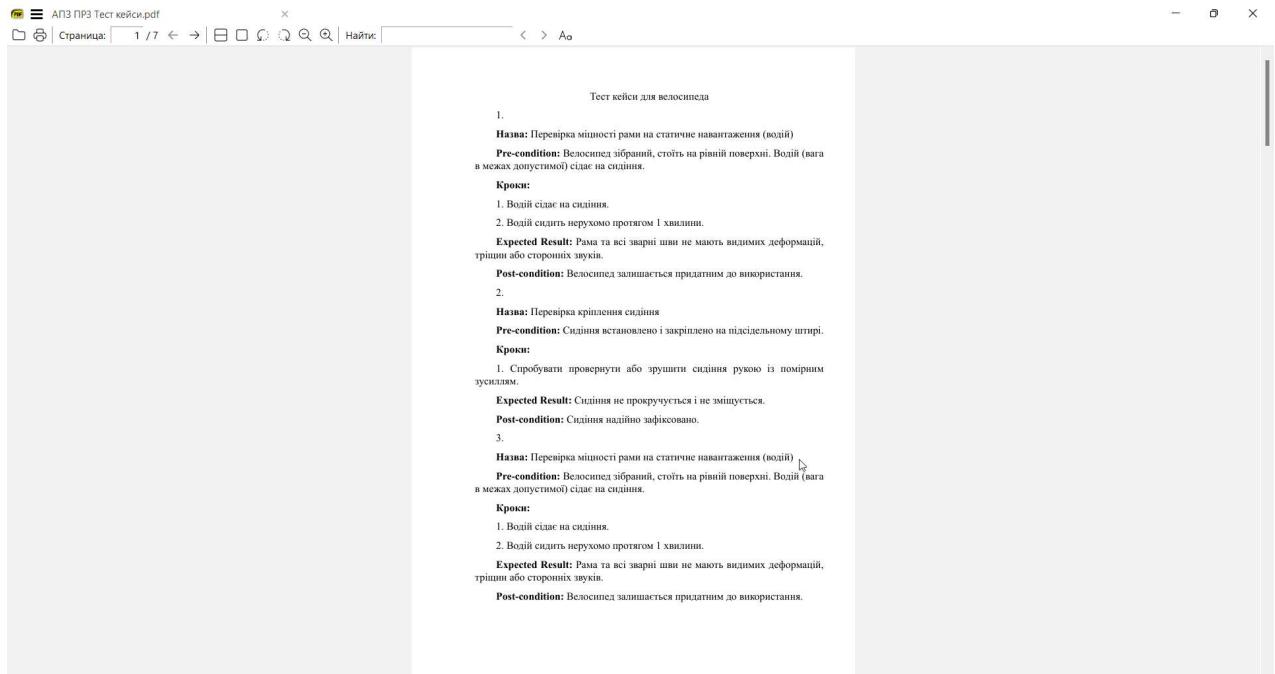


## Практична робота №3

Тема: Написання тест-кейсів (Test Case).

Мета: Набування навичок у написанні тест-кейсів різних пристройв.

Створили PDF документ з тест кейсами для перевірки велосипеда та завантажили його на Git Hub.



```
Командная строка

Microsoft Windows [Version 10.0.22631.6060]
(c) Корпорация Майкрософт (Microsoft Corporation). Все права защищены.

C:\Users\msd75>cd C:\Users\msd75\OneDrive - Dnipro University of Technology\Desktop\НТУ ДП\АПЗ

C:\Users\msd75\OneDrive - Dnipro University of Technology\Desktop\НТУ ДП\АПЗ>git config --get remote.origin.url
https://github.com/dimon080204/APZ-Batyshyi-122-23ck-1.git

C:\Users\msd75\OneDrive - Dnipro University of Technology\Desktop\НТУ ДП\АПЗ>git add "АПЗ ПРЗ Тест кейси.pdf"

C:\Users\msd75\OneDrive - Dnipro University of Technology\Desktop\НТУ ДП\АПЗ>git commit -m "Add file АПЗ ПРЗ Тест кейси.pdf"
[main bela323] Add file АПЗ ПРЗ Тест кейси.pdf
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 "\320\220\320\237\320\227 \320\237\320\2403 \320\242\320\265\321\201\321\202 \320\272\320\265\320\271\321\201\320\270.pdf"

C:\Users\msd75\OneDrive - Dnipro University of Technology\Desktop\НТУ ДП\АПЗ>git push
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 12 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 196.39 KiB | 14.03 MiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/dimon080204/APZ-Batyshyi-122-23ck-1.git
 65fc205..bela323 main -> main

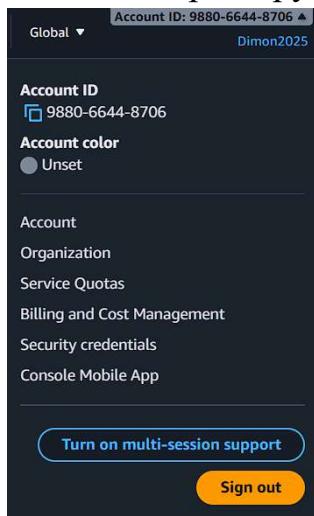
C:\Users\msd75\OneDrive - Dnipro University of Technology\Desktop\НТУ ДП\АПЗ>
```

## Практична робота №4

Тема: AWS S3.

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

Успішно зареєструвались на сервісі AWS.



Увійшли до супрісіу S3.

The screenshot shows the Amazon S3 service page. At the top, it says 'Storage' and 'Amazon S3'. Below that, it reads 'Store and retrieve any amount of data from anywhere'. A subtext explains that Amazon S3 is an object storage service. To the right, there is a callout box for 'Create a bucket' with instructions about buckets and a 'Create bucket' button. Another callout box for 'Pricing' states that there are no minimum fees and provides a link to the Simple Monthly Calculator. At the bottom, there is a section titled 'How it works' with a diagram showing a file being uploaded to a bucket. Navigation links at the bottom include CloudShell, Feedback, Console Mobile App, Privacy, Terms, and Cookie preferences.

Створили HTML документ з кодом:

```
<!DOCTYPE html>
<html lang="uk">
<head>
<meta charset="UTF-8">
<title>Моя сторінка</title>
</head>
<body>
<h1>Батишний Дмитро Віталійович</h1><br />
<p>122-23ск-1</p>
```

```
</body>  
</html>
```

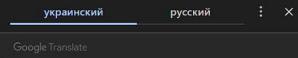
Завантажили файл.

The screenshot shows the AWS S3 console interface. At the top, there's a search bar and navigation links for 'Amazon S3 > Buckets > batyshnyi-dmytro-apz-bucket'. Below the navigation, there are tabs for 'Objects' (which is selected), 'Properties', 'Permissions', 'Metrics', 'Management', and 'Access Points'. Under the 'Objects' tab, it says '(1) Objects'. There's a table with one row containing 'index.html'. The table has columns for Name, Type, Last modified, Size, and Storage class. The file 'index.html' is listed as type 'html', modified on November 15, 2025, at 12:16:35 (UTC+02:00), with a size of 236.0 B and a storage class of Standard. Action buttons like 'Copy S3 URI', 'Copy URL', 'Download', 'Open', 'Delete', 'Actions', 'Create folder', and 'Upload' are available above the table. A message at the bottom of the table area says: 'Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)'.

Відкрили.

Батишний Дмитро Віталійович

122-23ск-1



## Відкрили доступ для перегляду іншими користувачами.

The screenshot shows the AWS S3 Access Control List (ACL) configuration for a bucket named 'batyshnyi-dmytro-apz-bucket'. The 'index.html' object is selected. The 'Edit access control list' button is visible at the top right. The 'Access Control List (ACL)' section grants basic read/write permissions to AWS accounts. It includes sections for 'Object owner (your AWS account)', 'Everyone (public access)', and 'Authenticated users group (anyone with an AWS account)'. Each section has a 'Read' checkbox checked. The 'Object ACL' section also has 'Read' and 'Write' checkboxes checked. A note at the bottom states: 'When you grant access to the Everyone or Authenticated users group grantees, anyone in the world can access this object.' A checkbox for 'I understand the effects of these changes on this object.' is checked. At the bottom left, there's an 'Add grantee' button. The footer includes links for CloudShell, Feedback, and Console Mobile App, along with copyright information and privacy terms.

Тепер сторінка доступна за посиланням: <https://batyshnyi-dmytro-apz-bucket.s3.eu-north-1.amazonaws.com/index.html>

## Практична робота №5

### Тема: AWS EC2

Мета роботи: набування навичок створення та розміщення віртуального сервера за допомогою AWS EC2.

Запускаємо Instance.

The screenshot shows the 'Launch an instance' wizard on the AWS EC2 console. In the 'Name and tags' step, the name 'Batyshnyi-apz-windows-machine' is entered. The 'Software Image (AMI)' section shows 'Microsoft Windows Server 2025' selected. The 'Virtual server type (instance type)' is set to 't3.micro'. Under 'Storage (volumes)', it shows '1 volume(s) - 30 GiB'. The 'Summary' panel indicates 1 instance. The 'Launch instance' button is highlighted in orange.

**Name and tags** Info

Name  
Batyshnyi-apz-windows-machine Add additional tags

**Application and OS Images (Amazon Machine Image)** Info

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 aws macOS Ubuntu Windows Red Hat SUSE Linux Debian Microsoft Red Hat SUSE debian > Browse more AMIs  
Including AMIs from AWS, Marketplace and the Community

**Summary**

Number of instances Info  
1

Software Image (AMI)  
Microsoft Windows Server 2025 ...[read more](#)  
ami-010e40c6557403885

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](#)

The screenshot shows the 'Launch an instance' wizard on the AWS EC2 console. In the 'Instance type' step, the 'm7i-flex.large' instance type is selected. It shows details like Family: m7i-flex, 2 vCPU, 8 GiB Memory, Current generation: true, and On-Demand Linux base pricing: 0.10175 USD per Hour. The 'Additional costs apply for AMIs with pre-installed software' note is visible. The 'Summary' panel indicates 1 instance. The 'Launch instance' button is highlighted in orange.

**Instance type** Info | Get advice

**Instance type**

m7i-flex.large Free tier eligible  
Family: m7i-flex 2 vCPU 8 GiB Memory Current generation: true  
On-Demand Linux base pricing: 0.10175 USD per Hour  
On-Demand Ubuntu Pro base pricing: 0.10525 USD per Hour  
On-Demand RHEL base pricing: 0.13055 USD per Hour  
On-Demand Windows base pricing: 0.18915 USD per Hour  
On-Demand SUSE base pricing: 0.15805 USD per Hour

Additional costs apply for AMIs with pre-installed software

**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**  
 [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.

**Summary**

Number of instances Info  
1

Software Image (AMI)  
Microsoft Windows Server 2025 ...[read more](#)  
ami-010e40c6557403885

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](#)

aws | Search [Alt+S] Account ID: 9880-6644-8706 ▾ Europe (Stockholm) ▾ Dimon2025

EC2 > Instances > Launch an instance

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

**Network** [Info](#)  
vpc-0d449282d8d8efc4f

**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:

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.**

**Summary**

Number of instances [Info](#)  
1

**Software Image (AMI)**  
Microsoft Windows Server 2025 ...[read more](#)  
ami-010e40c6557403885

**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](#)

CloudShell Feedback Console Mobile App

aws | Search [Alt+S] Account ID: 9880-6644-8706 ▾ Europe (Stockholm) ▾ Dimon2025

EC2 > Instances > Launch an instance

Select security groups

launch-wizard-2 sg-084742739c0545336 [X](#)  
VPC: vpc-0d449282d8d8efc4f

Security groups that you add or remove here will be added to or removed from all your network interfaces.

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

Advanced

1x 256 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](#)

**Advanced details** [Info](#)

**Summary**

Number of instances [Info](#)  
1

**Software Image (AMI)**  
Microsoft Windows Server 2025 ...[read more](#)  
ami-010e40c6557403885

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

**Firewall (security group)**  
launch-wizard-2

**Storage (volumes)**  
1 volume(s) - 256 GiB

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

CloudShell Feedback Console Mobile App

aws | Search [Alt+S] Account ID: 9880-6644-8706 ▾ Europe (Stockholm) ▾ Dimon2025

EC2 > Instances > Launch an instance

**Success**  
Successfully initiated launch of instance (i-0f6eebabf611f672b)

**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](#)

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

**Manage detailed monitoring** [Info](#)

**Create Load Balancer** [Info](#)

**Create AWS budget** [Info](#)

**Manage CloudWatch alarms** [Info](#)

IP адреса:  
13.60.239.243

Ім'я користувача та пароль:  
Administrator  
ZL4IIFTSRisdTNp8NQ8\*(-1r2;GQROnw.  
Підключилися через RDP client

The screenshot shows the AWS EC2 Instances Connect interface. At the top, it displays the instance ID: i-0f6eebabf611f672b. Below this, the 'Connect Info' section indicates the instance is ready for RDP connections. It provides two main connection options: 'Record RDP connections' (using AWS Systems Manager just-in-time node access) and 'Connect using RDP client'. The 'Connect using RDP client' option is selected. It includes a link to download the RDP shortcut file. To the right, there's a 'Try for free' button. Further down, it shows the public DNS and IP address (ec2-13-60-239-243.eu-north-1.compute.amazonaws.com). On the right side, there's a 'Username Info' dropdown set to 'Administrator'. The bottom of the page includes standard AWS navigation links like CloudShell, Feedback, and Console Mobile App, along with copyright information and links for Privacy, Terms, and Cookie preferences.



Файл для підключення завантажили на GitHub в папці ПР5.