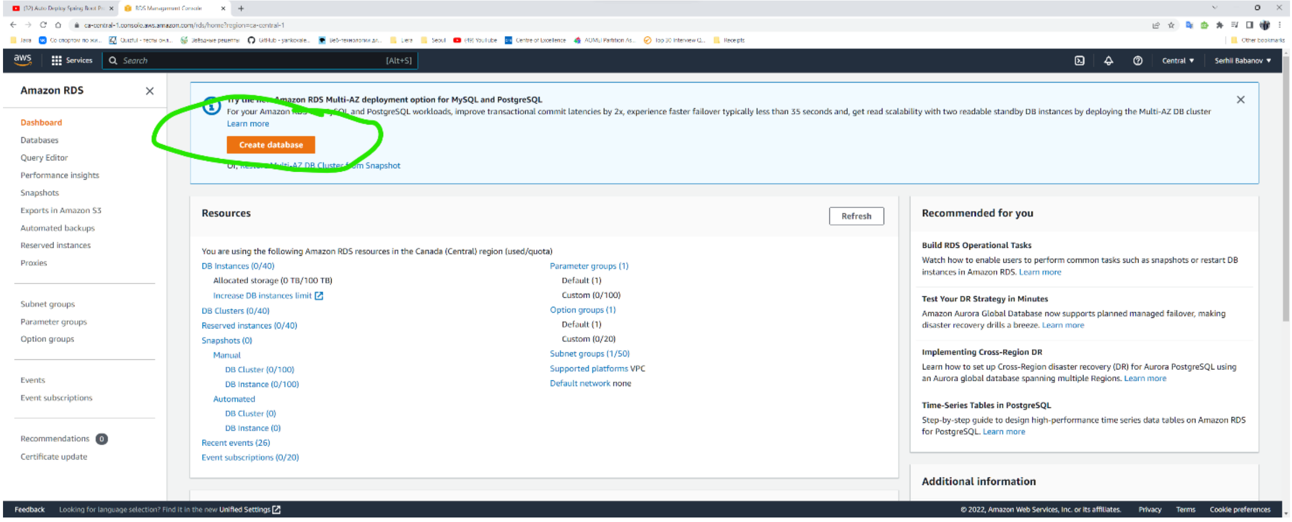

(32) Auto Deploy Spring Boot Pr | RDS Management Console

ca-central-1.console.aws.amazon.com/rds/home?region=ca-central-1

Amazon RDS

- Dashboard
- Databases
- Query Editor
- Performance insights
- Snapshots
- Exports in Amazon S3
- Automated backups
- Reserved instances
- Proxies
- Subnet groups
- Parameter groups
- Option groups
- Events
- Event subscriptions
- Recommendations 0
- Certificate update

Try the new Amazon RDS Multi-AZ deployment option for MySQL and PostgreSQL

For your Amazon RDS for MySQL and PostgreSQL workloads, improve transactional commit latencies by 2x, experience faster failover typically less than 35 seconds and, get read scalability with two readable standby DB instances by deploying the Multi-AZ DB cluster

Learn more

Create database

Or, Restore Multi-AZ DB Cluster from Snapshot

Resources

Refresh

You are using the following Amazon RDS resources in the Canada (Central) region (used/quota)

- DB Instances (0/40)
  - Allocated storage (0 TB/100 TB)
  - Increase DB instances limit
- DB Clusters (0/40)
- Reserved instances (0/40)
- Snapshots (0)
  - Manual
    - DB Cluster (0/100)
    - DB Instance (0/100)
  - Automated
    - DB Cluster (0)
    - DB Instance (0)
- Recent events (26)
- Event subscriptions (0/20)

- Parameter groups (1)
  - Default (1)
  - Custom (0/100)
- Option groups (1)
  - Default (1)
  - Custom (0/20)
- Subnet groups (1/50)
- Supported platforms VPC
- Default network none

Recommended for you

Build RDS Operational Tasks

Watch how to enable users to perform common tasks such as snapshots or restart DB instances in Amazon RDS. Learn more

Test Your DR Strategy in Minutes

Amazon Aurora Global Database now supports planned managed failover, making disaster recovery drills a breeze. Learn more

Implementing Cross-Region DR

Learn how to set up Cross-Region disaster recovery (DR) for Aurora PostgreSQL using an Aurora global database spanning multiple Regions. Learn more

Time-Series Tables in PostgreSQL

Step-by-step guide to design high-performance time series data tables on Amazon RDS for PostgreSQL. Learn more

Additional information

Feedback Looking for language selection? Find it in the new Unified Settings

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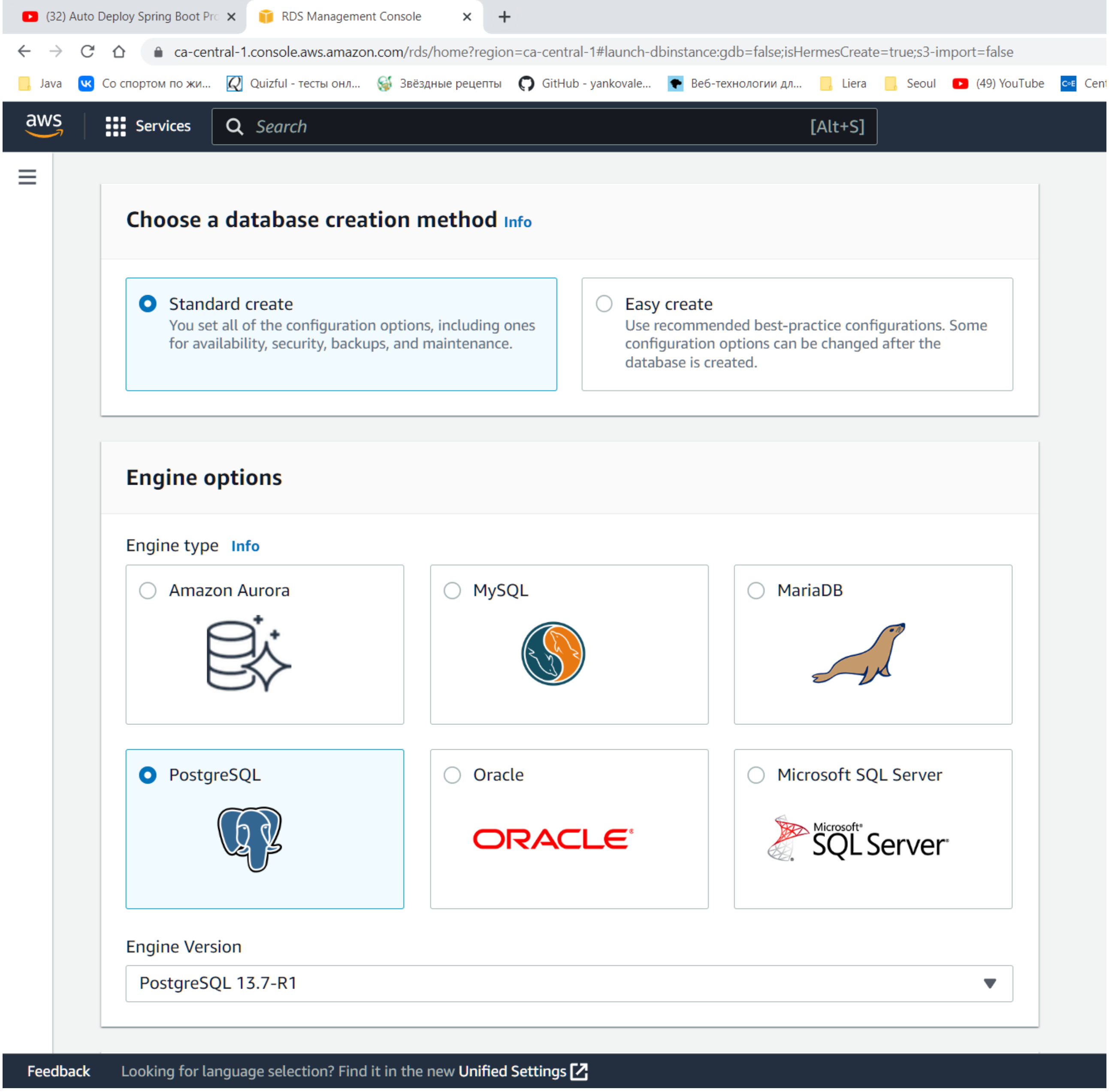


(32) Auto Deploy Spring Boot Pr | RDS Management Console

ca-central-1.console.aws.amazon.com/rds/home?region=ca-central-1#launch-dbinstance:gdb=false;isHermesCreate=true;s3-import=false

Choose a database creation method Info

● **Standard create**
You set all of the configuration options, including ones for availability, security, backups, and maintenance.

○ **Easy create**
Use recommended best-practice configurations. Some configuration options can be changed after the database is created.

Engine options

Engine type Info

○ Amazon Aurora

○ MySQL

○ MariaDB

● PostgreSQL

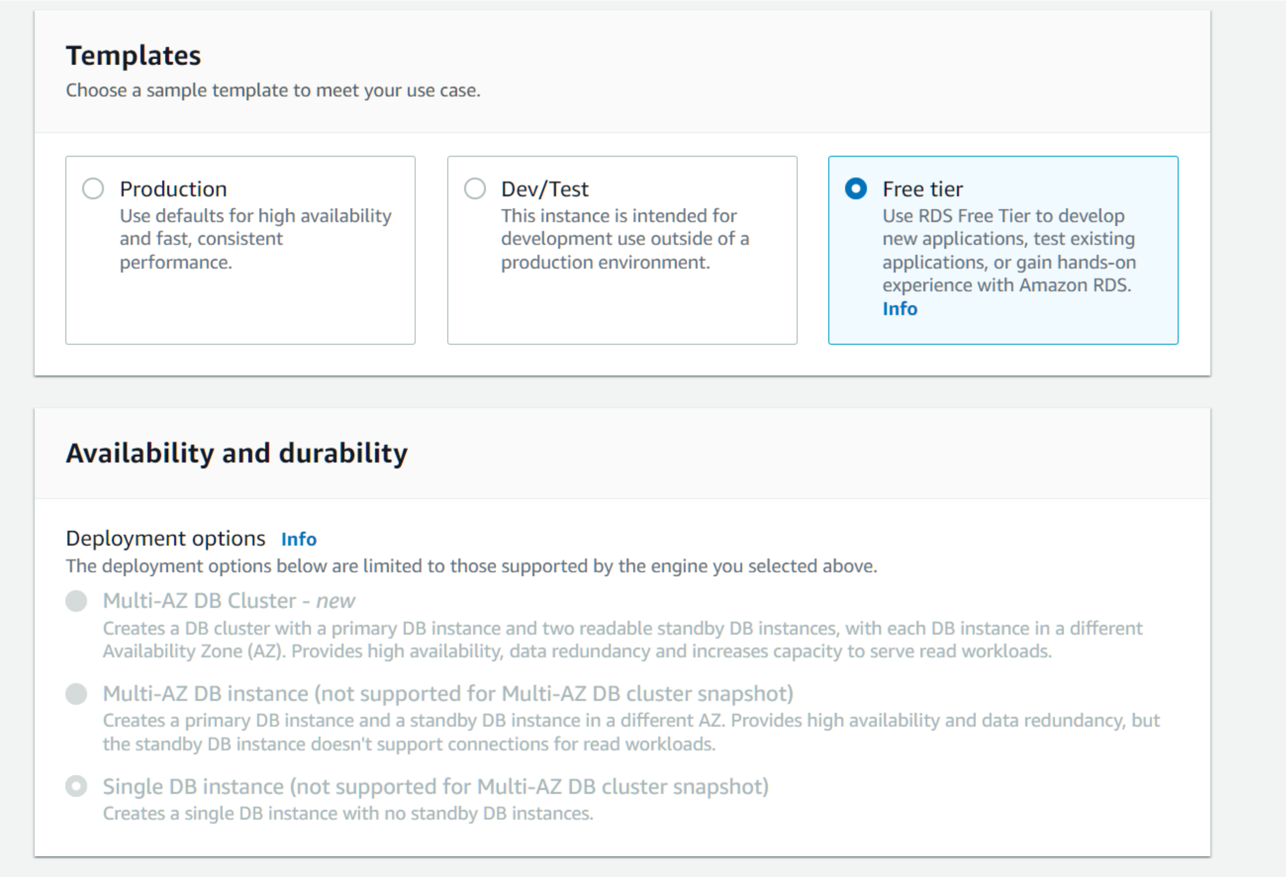
○ Oracle

○ Microsoft SQL Server

Engine Version

PostgreSQL 13.7-R1

Feedback Looking for language selection? Find it in the new Unified Settings



Templates

Choose a sample template to meet your use case.

○ Production
Use defaults for high availability and fast, consistent performance.

○ Dev/Test
This instance is intended for development use outside of a production environment.

● Free tier
Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS.
Info

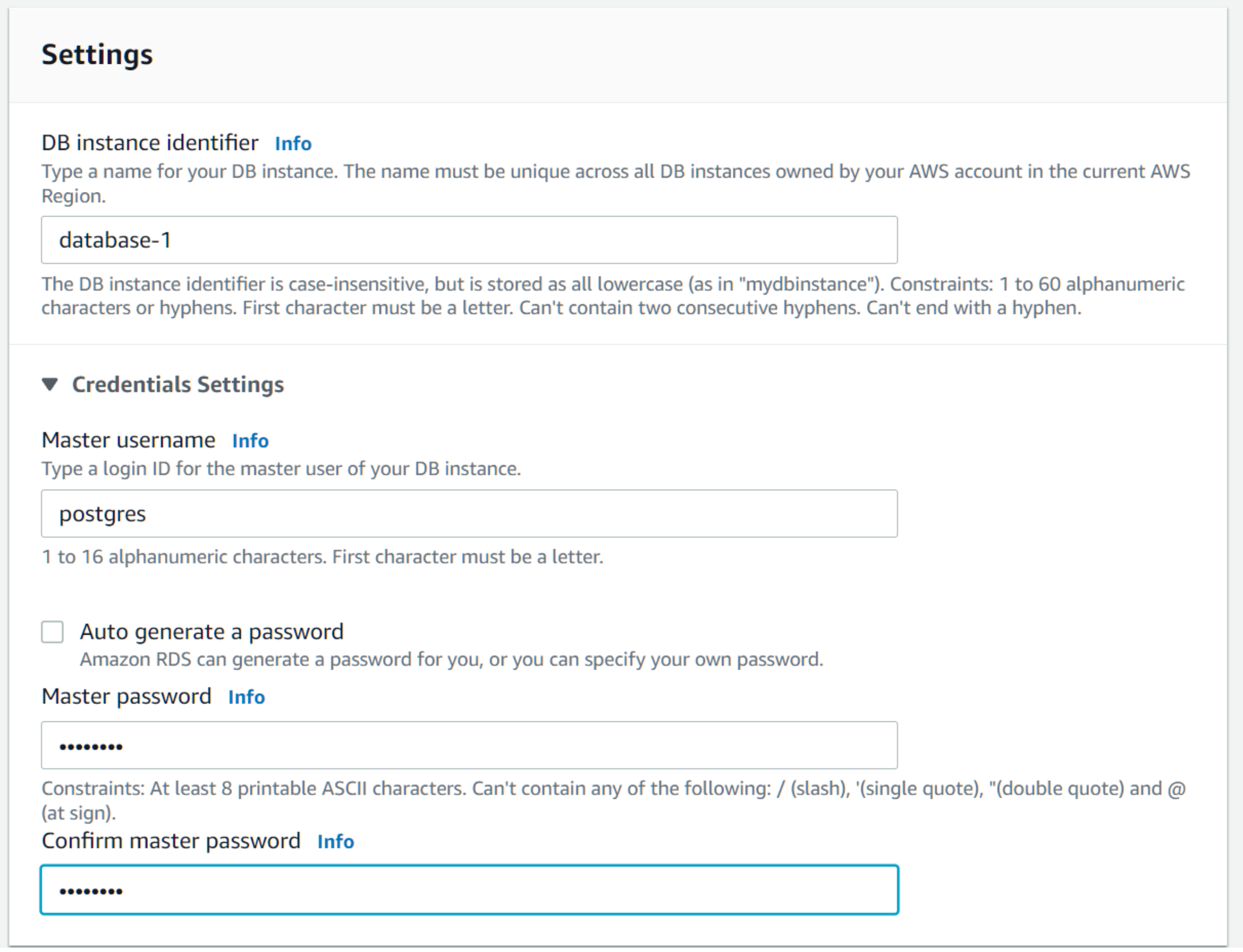
Availability and durability

Deployment options Info
The deployment options below are limited to those supported by the engine you selected above.

○ Multi-AZ DB Cluster - *new*
Creates a DB cluster with a primary DB instance and two readable standby DB instances, with each DB instance in a different Availability Zone (AZ). Provides high availability, data redundancy and increases capacity to serve read workloads.

○ Multi-AZ DB instance (not supported for Multi-AZ DB cluster snapshot)
Creates a primary DB instance and a standby DB instance in a different AZ. Provides high availability and data redundancy, but the standby DB instance doesn't support connections for read workloads.

● Single DB instance (not supported for Multi-AZ DB cluster snapshot)
Creates a single DB instance with no standby DB instances.



Settings

DB instance identifier Info
Type a name for your DB instance. The name must be unique across all DB instances owned by your AWS account in the current AWS Region.

database-1

The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 60 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

▼ Credentials Settings

Master username Info
Type a login ID for the master user of your DB instance.

postgres

1 to 16 alphanumeric characters. First character must be a letter.

□ Auto generate a password
Amazon RDS can generate a password for you, or you can specify your own password.

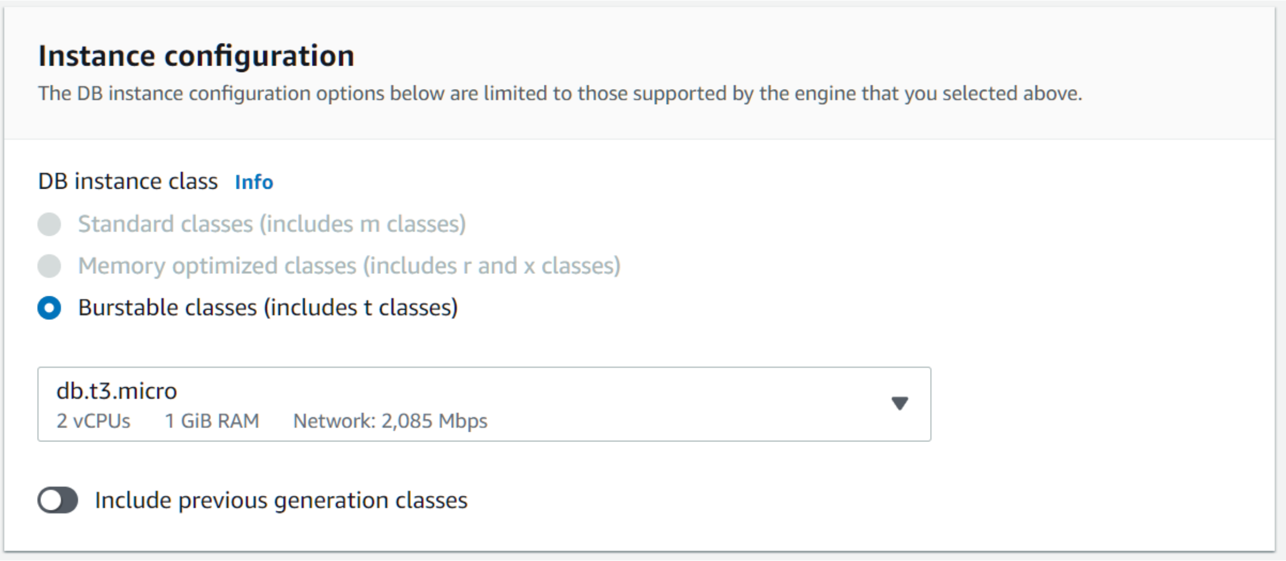
Master password Info

••••••••

Constraints: At least 8 printable ASCII characters. Can't contain any of the following: / (slash), '(single quote), "(double quote) and @ (at sign).

Confirm master password Info

••••••••



Instance configuration

The DB instance configuration options below are limited to those supported by the engine that you selected above.

DB instance class Info

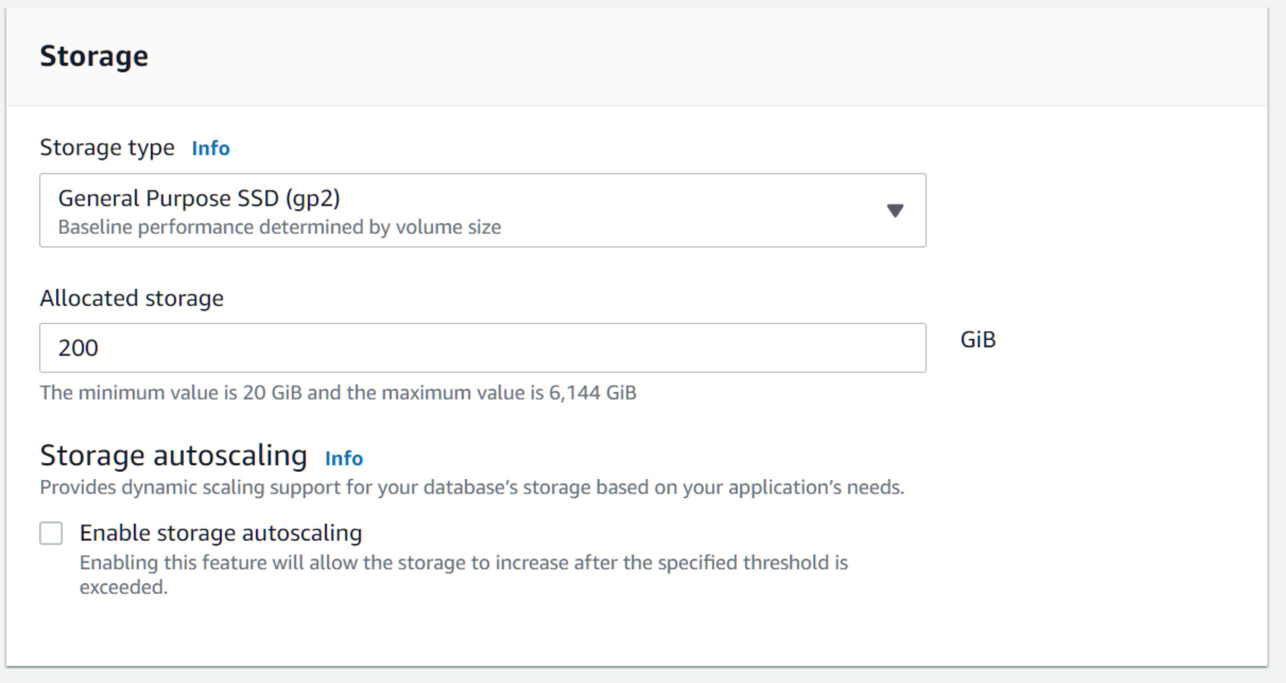
○ Standard classes (includes m classes)

○ Memory optimized classes (includes r and x classes)

● Burstable classes (includes t classes)

db.t3.micro
2 vCPUs 1 GiB RAM Network: 2,085 Mbps

Include previous generation classes



Storage

Storage type Info

General Purpose SSD (gp2)
Baseline performance determined by volume size

Allocated storage

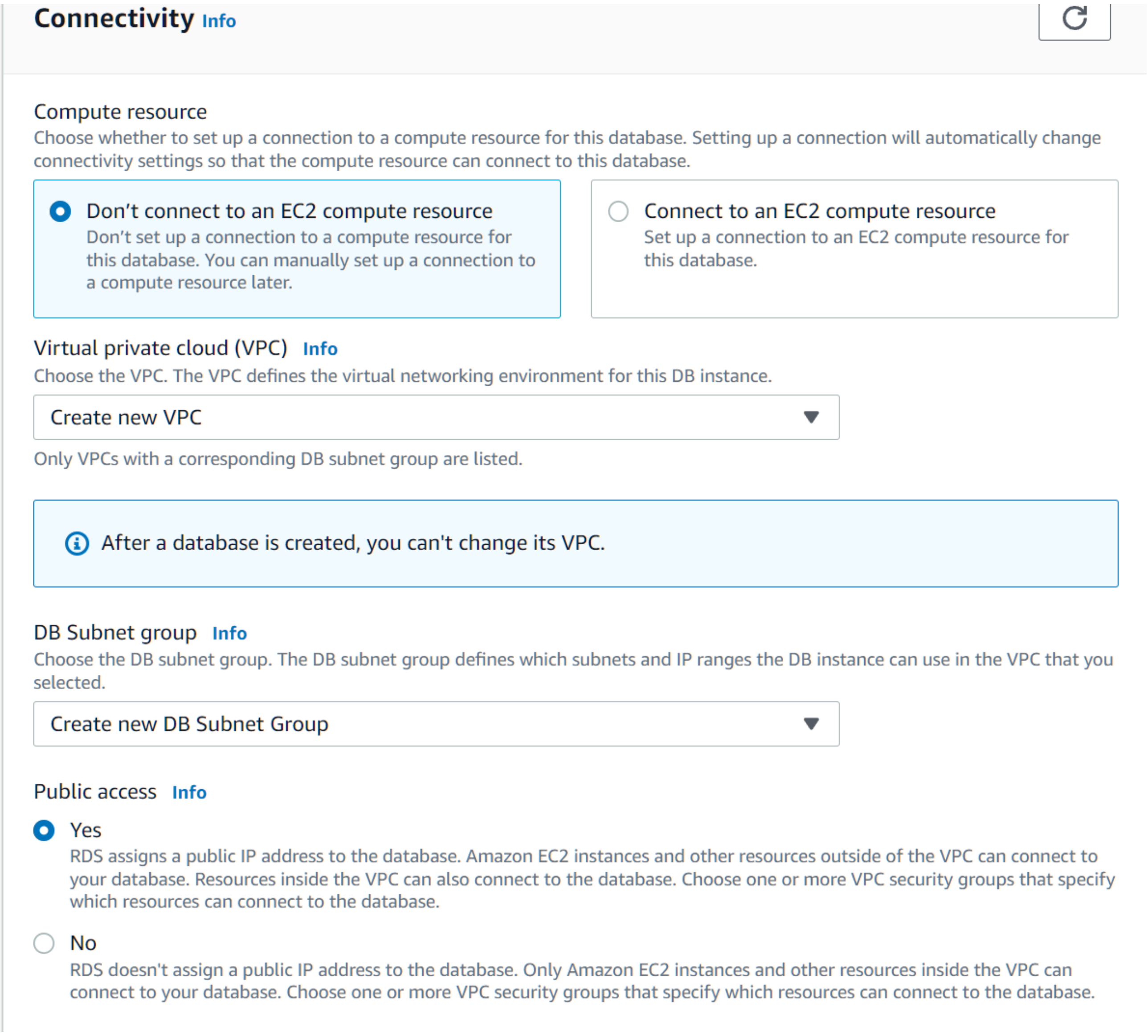
200 GiB

The minimum value is 20 GiB and the maximum value is 6,144 GiB

Storage autoscaling Info

Provides dynamic scaling support for your database's storage based on your application's needs.

□ Enable storage autoscaling
Enabling this feature will allow the storage to increase after the specified threshold is exceeded.



Connectivity Info

Compute resource

Choose whether to set up a connection to a compute resource for this database. Setting up a connection will automatically change connectivity settings so that the compute resource can connect to this database.

● Don’t connect to an EC2 compute resource
Don’t set up a connection to a compute resource for this database. You can manually set up a connection to a compute resource later.

○ Connect to an EC2 compute resource
Set up a connection to an EC2 compute resource for this database.

Virtual private cloud (VPC) Info

Choose the VPC. The VPC defines the virtual networking environment for this DB instance.

Create new VPC ▼

Only VPCs with a corresponding DB subnet group are listed.

ⓘ After a database is created, you can't change its VPC.

DB Subnet group Info

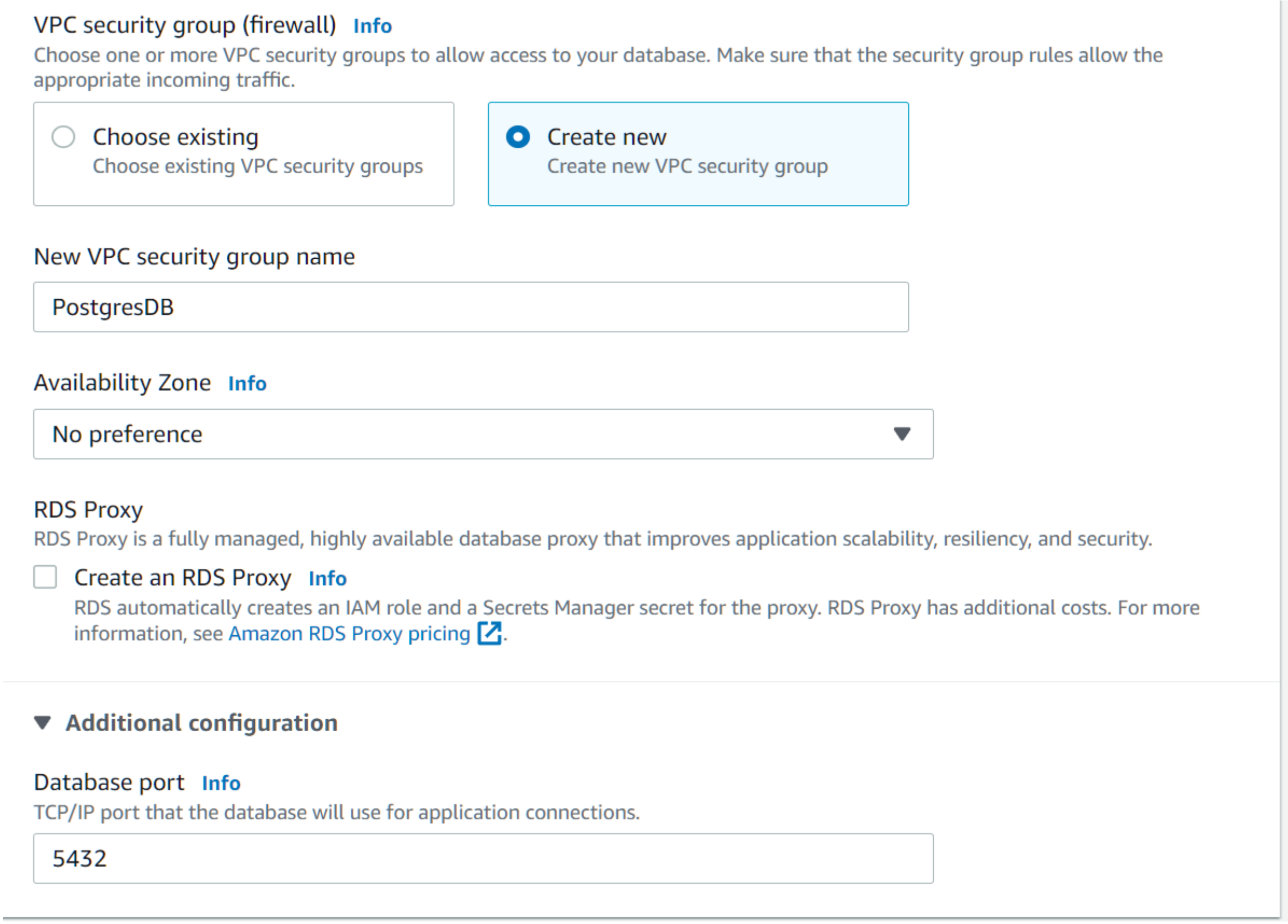
Choose the DB subnet group. The DB subnet group defines which subnets and IP ranges the DB instance can use in the VPC that you selected.

Create new DB Subnet Group ▼

Public access Info

● Yes
RDS assigns a public IP address to the database. Amazon EC2 instances and other resources outside of the VPC can connect to your database. Resources inside the VPC can also connect to the database. Choose one or more VPC security groups that specify which resources can connect to the database.

○ No
RDS doesn't assign a public IP address to the database. Only Amazon EC2 instances and other resources inside the VPC can connect to your database. Choose one or more VPC security groups that specify which resources can connect to the database.



VPC security group (firewall) Info

Choose one or more VPC security groups to allow access to your database. Make sure that the security group rules allow the appropriate incoming traffic.

○ Choose existing
Choose existing VPC security groups

● Create new
Create new VPC security group

New VPC security group name

PostgresDB

Availability Zone Info

No preference ▼

RDS Proxy

RDS Proxy is a fully managed, highly available database proxy that improves application scalability, resiliency, and security.

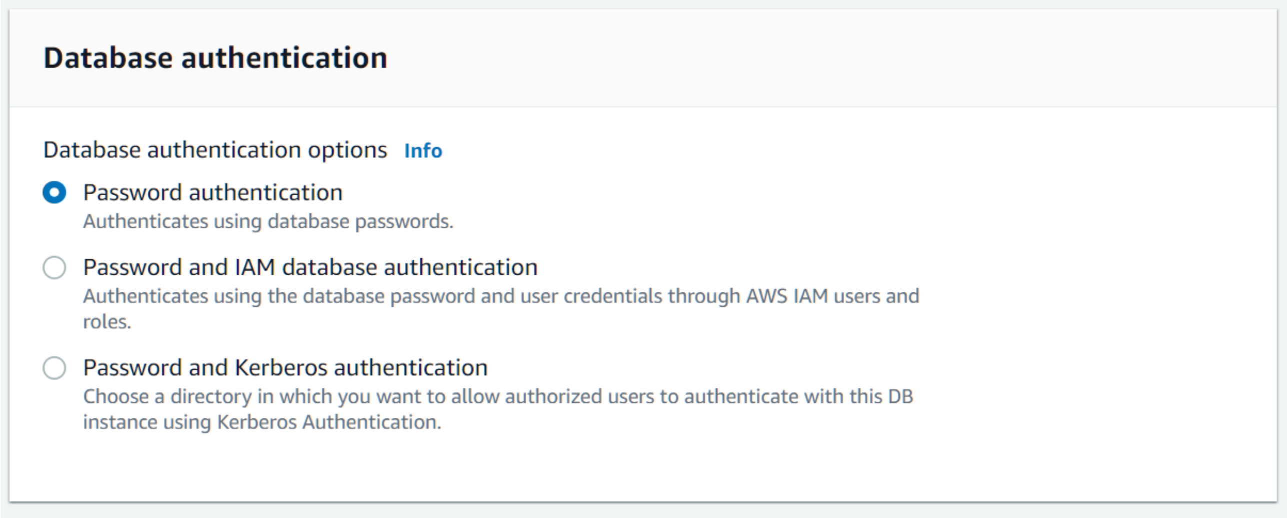
□ Create an RDS Proxy Info
RDS automatically creates an IAM role and a Secrets Manager secret for the proxy. RDS Proxy has additional costs. For more information, see Amazon RDS Proxy pricing.

▼ **Additional configuration**

Database port Info

TCP/IP port that the database will use for application connections.

5432



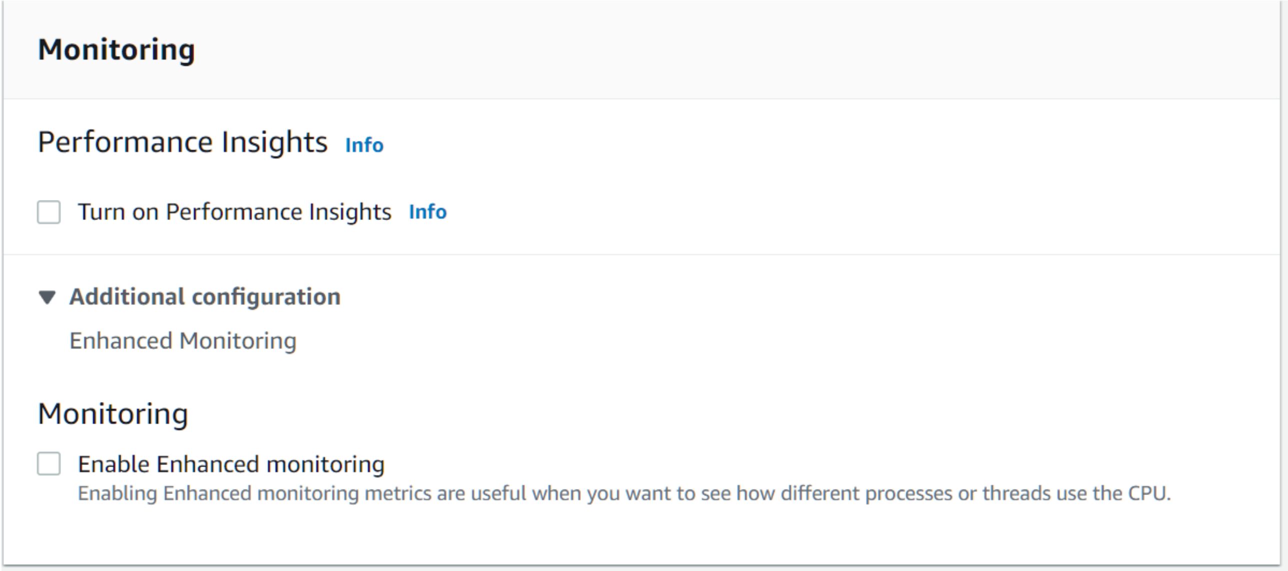
Database authentication

Database authentication options Info

● Password authentication
Authenticates using database passwords.

○ Password and IAM database authentication
Authenticates using the database password and user credentials through AWS IAM users and roles.

○ Password and Kerberos authentication
Choose a directory in which you want to allow authorized users to authenticate with this DB instance using Kerberos Authentication.



Monitoring

Performance Insights Info

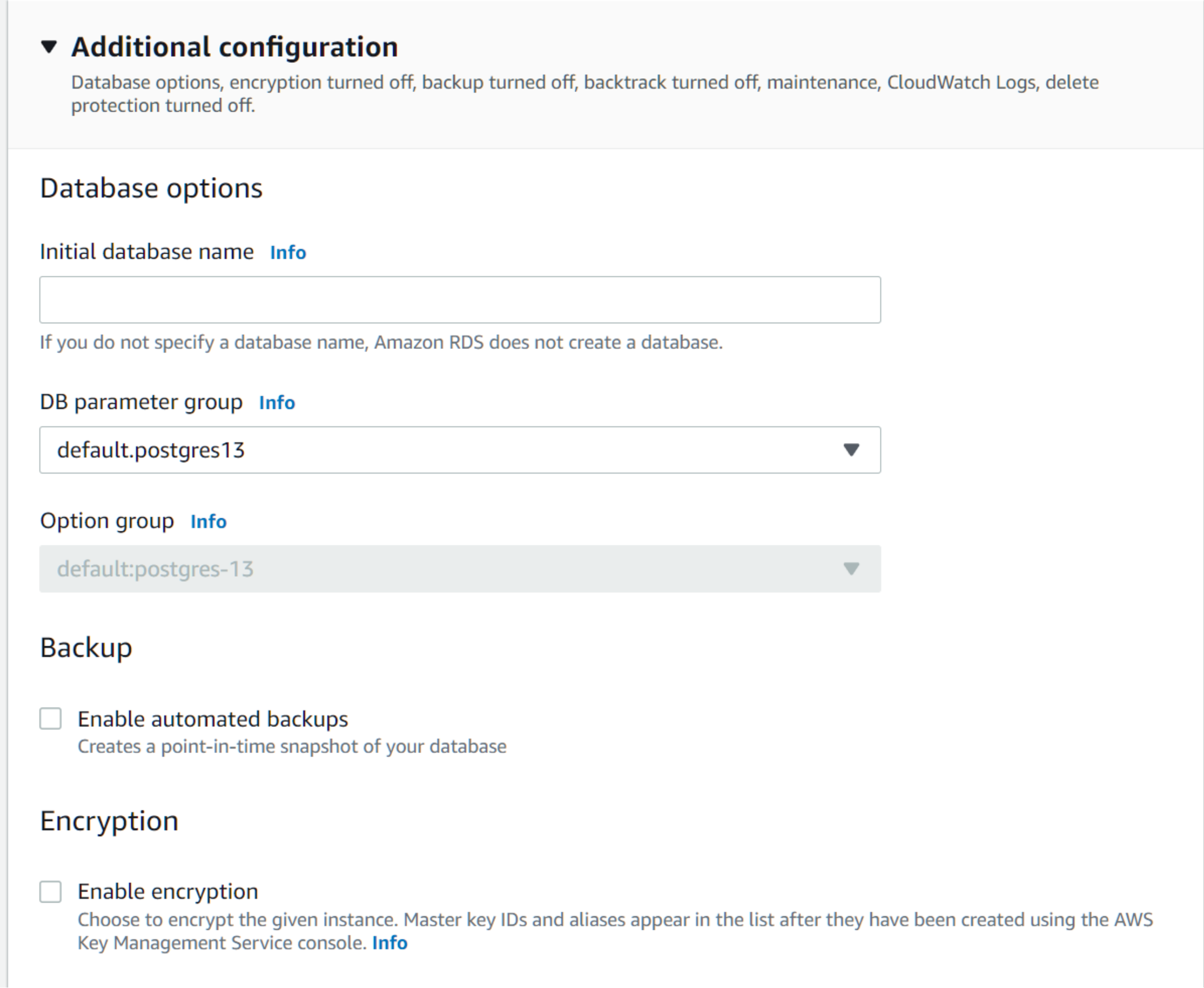
☐ Turn on Performance Insights Info

▼ **Additional configuration**

Enhanced Monitoring

Monitoring

☐ Enable Enhanced monitoring
Enabling Enhanced monitoring metrics are useful when you want to see how different processes or threads use the CPU.



▼ Additional configuration

Database options, encryption turned off, backup turned off, backtrack turned off, maintenance, CloudWatch Logs, delete protection turned off.

Database options

Initial database name Info

If you do not specify a database name, Amazon RDS does not create a database.

DB parameter group Info

default.postgres13 ▼

Option group Info

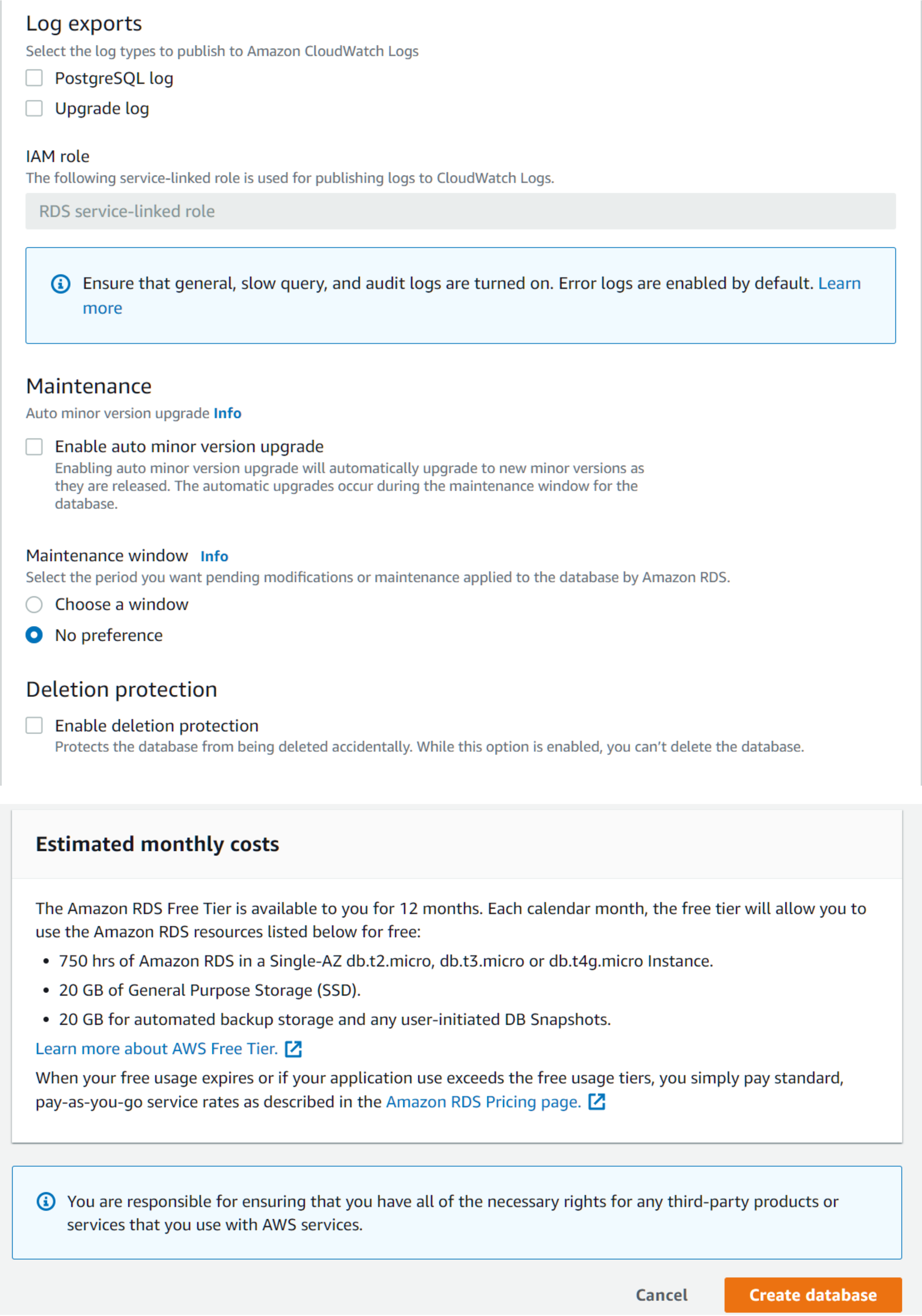
default:postgres-13 ▼

Backup

☐ Enable automated backups
Creates a point-in-time snapshot of your database

Encryption

☐ Enable encryption
Choose to encrypt the given instance. Master key IDs and aliases appear in the list after they have been created using the AWS Key Management Service console. Info



Log exports

Select the log types to publish to Amazon CloudWatch Logs

☐ PostgreSQL log

☐ Upgrade log

IAM role

The following service-linked role is used for publishing logs to CloudWatch Logs.

RDS service-linked role

ⓘ Ensure that general, slow query, and audit logs are turned on. Error logs are enabled by default. Learn more

Maintenance

Auto minor version upgrade **Info**

☐ Enable auto minor version upgrade

Enabling auto minor version upgrade will automatically upgrade to new minor versions as they are released. The automatic upgrades occur during the maintenance window for the database.

Maintenance window **Info**

Select the period you want pending modifications or maintenance applied to the database by Amazon RDS.

○ Choose a window

● No preference

Deletion protection

☐ Enable deletion protection

Protects the database from being deleted accidentally. While this option is enabled, you can't delete the database.

Estimated monthly costs

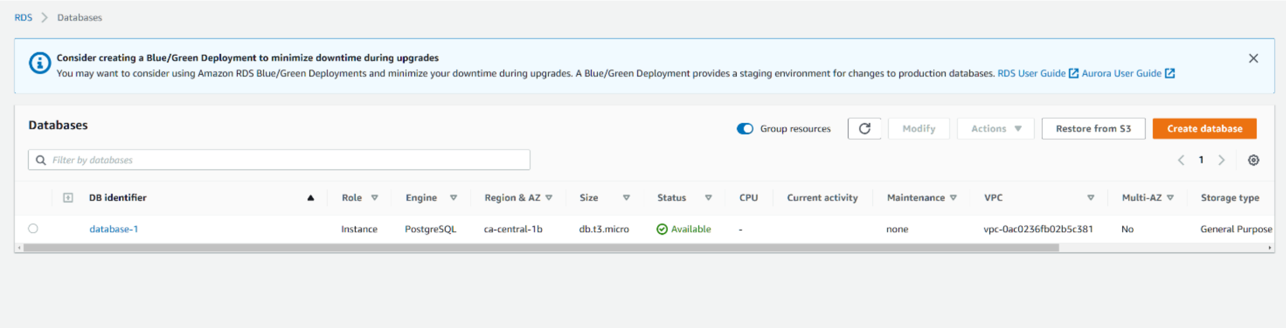
The Amazon RDS Free Tier is available to you for 12 months. Each calendar month, the free tier will allow you to use the Amazon RDS resources listed below for free:

- 750 hrs of Amazon RDS in a Single-AZ db.t2.micro, db.t3.micro or db.t4g.micro Instance.
- 20 GB of General Purpose Storage (SSD).
- 20 GB for automated backup storage and any user-initiated DB Snapshots.

Learn more about AWS Free Tier.

When your free usage expires or if your application use exceeds the free usage tiers, you simply pay standard, pay-as-you-go service rates as described in the Amazon RDS Pricing page.

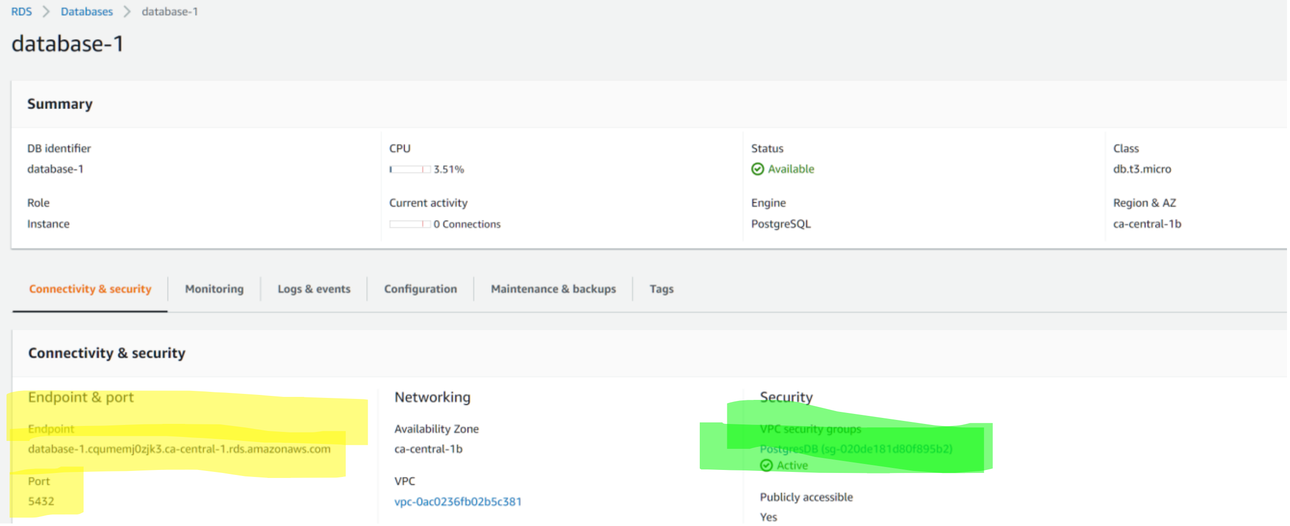
ⓘ You are responsible for ensuring that you have all of the necessary rights for any third-party products or services that you use with AWS services.



Consider creating a Blue/Green Deployment to minimize downtime during upgrades
You may want to consider using Amazon RDS Blue/Green Deployments and minimize your downtime during upgrades. A Blue/Green Deployment provides a staging environment for changes to production databases. RDS User Guide Aurora User Guide

Databases

DB identifier	Role	Engine	Region & AZ	Size	Status	CPU	Current activity	Maintenance	VPC	Multi-AZ	Storage type
database-1	Instance	PostgreSQL	ca-central-1b	db.t3.micro	✓ Available	-		none	vpc-0ac0236fb02b5c381	No	General Purpose



database-1

Summary

DB identifier
database-1

CPU
3.51%

Status
✓ Available

Class
db.t3.micro

Role
Instance

Current activity
0 Connections

Engine
PostgreSQL

Region & AZ
ca-central-1b

Connectivity & security

Endpoint & port

Endpoint
database-1.cqumemj0zjk3.ca-central-1.rds.amazonaws.com

Port
5432

Networking

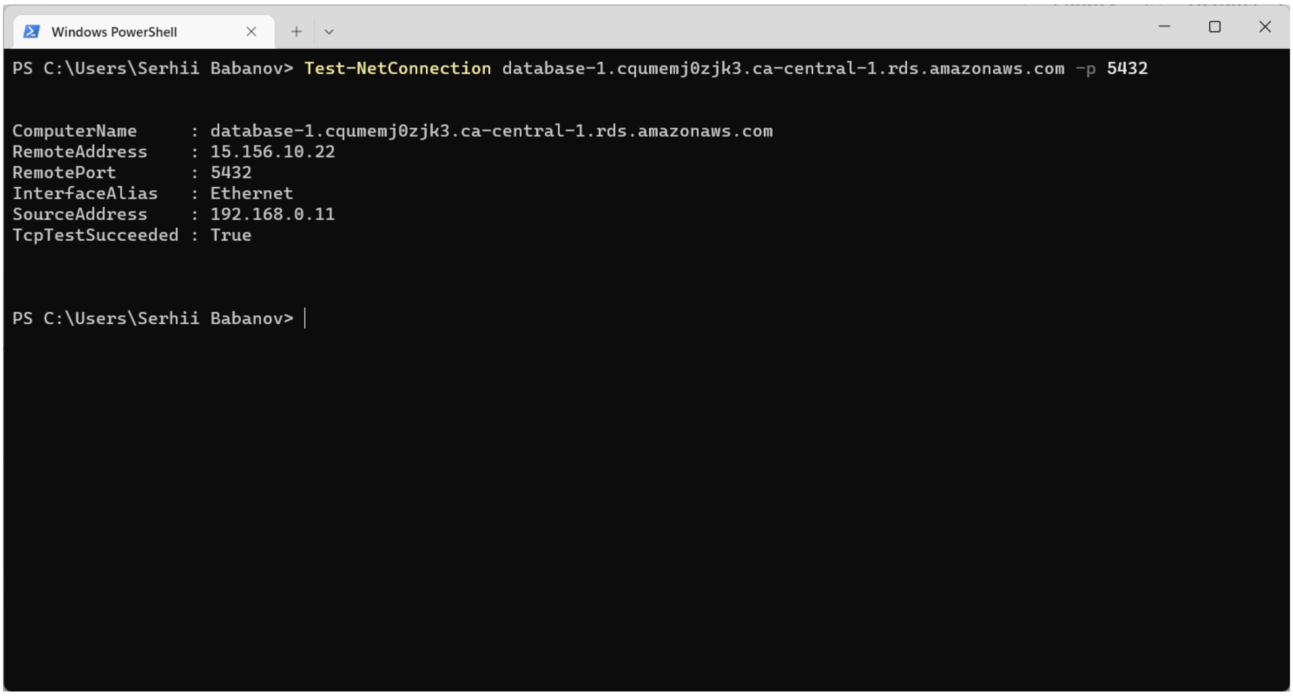
Availability Zone
ca-central-1b

VPC
vpc-0ac0236fb02b5c381

Security

VPC security groups
PostgresDB (sg-020de181d80f895b2)
✓ Active

Publicly accessible
Yes

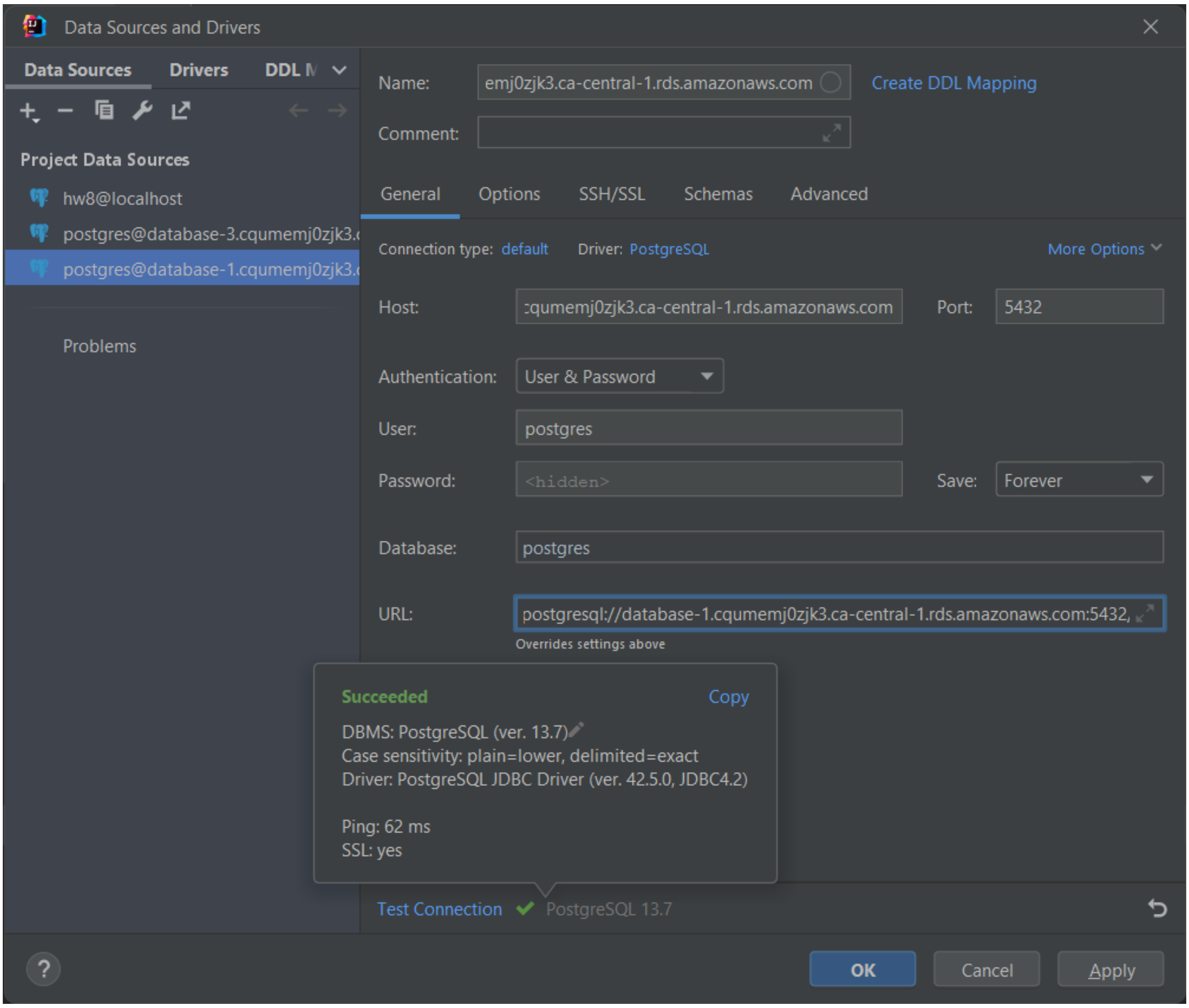


```
PS C:\Users\Serhii Babanov> Test-NetConnection database-1.cqumemj0zjk3.ca-central-1.rds.amazonaws.com -p 5432


ComputerName     : database-1.cqumemj0zjk3.ca-central-1.rds.amazonaws.com
RemoteAddress    : 15.156.10.22
RemotePort       : 5432
InterfaceAlias   : Ethernet
SourceAddress    : 192.168.0.11
TcpTestSucceeded : True



PS C:\Users\Serhii Babanov>
```



Name: emj0zjk3.ca-central-1.rds.amazonaws.com

Comment:

Connection type: default   Driver: PostgreSQL

Host: :qumemj0zjk3.ca-central-1.rds.amazonaws.com   Port: 5432

Authentication: User & Password

User: postgres

Password: <hidden>   Save: Forever

Database: postgres

URL: postgresql://database-1.cqumemj0zjk3.ca-central-1.rds.amazonaws.com:5432,

Overrides settings above

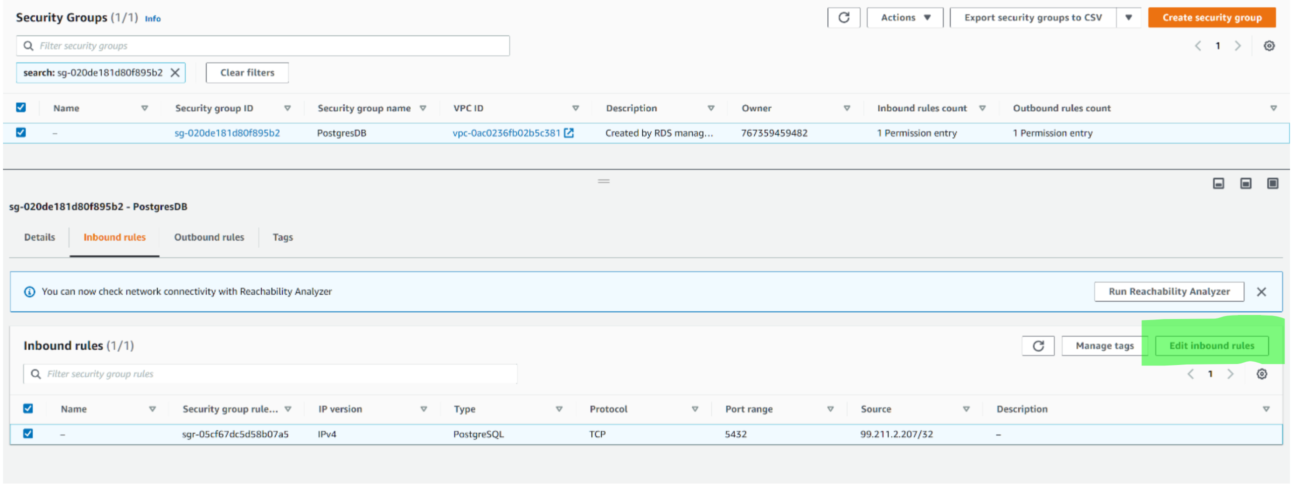
Succeeded   Copy

DBMS: PostgreSQL (ver. 13.7)
Case sensitivity: plain=lower, delimited=exact
Driver: PostgreSQL JDBC Driver (ver. 42.5.0, JDBC4.2)

Ping: 62 ms
SSL: yes

Test Connection ✓ PostgreSQL 13.7

Якщо з’єднання немає, треба додати правила в vpc security group



Security Groups (1/1)

Filter security groups

search: sg-020de181d80f895b2

☑	Name	Security group ID	Security group name	VPC ID	Description	Owner	Inbound rules count	Outbound rules count
☑	–	sg-020de181d80f895b2	PostgresDB	vpc-0ac0236fb02b5c381	Created by RDS manag...	767359459482	1 Permission entry	1 Permission entry

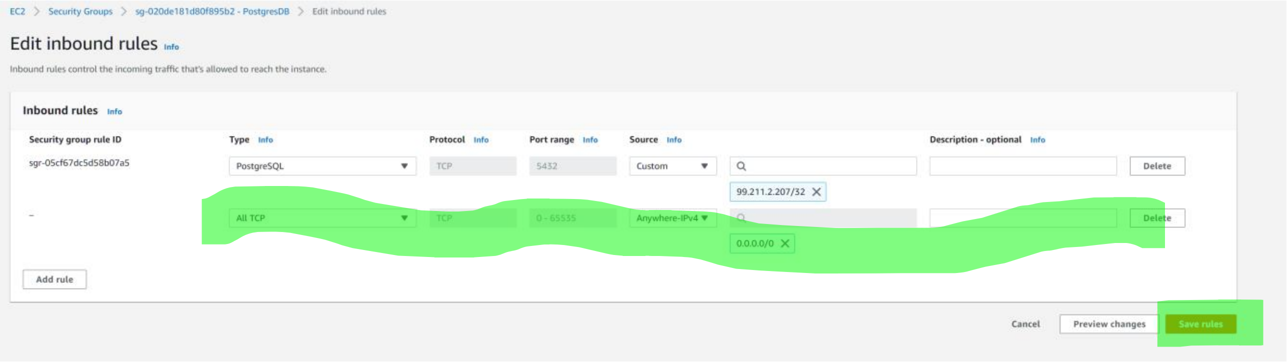
sg-020de181d80f895b2 - PostgresDB

You can now check network connectivity with Reachability Analyzer

Inbound rules (1/1)

Filter security group rules

☑	Name	Security group rule...	IP version	Type	Protocol	Port range	Source	Description
☑	–	sgr-05cf67dc5d58b07a5	IPv4	PostgreSQL	TCP	5432	99.211.2.207/32	–



EC2 > Security Groups > sg-020de181d80f895b2 - PostgresDB > Edit inbound rules

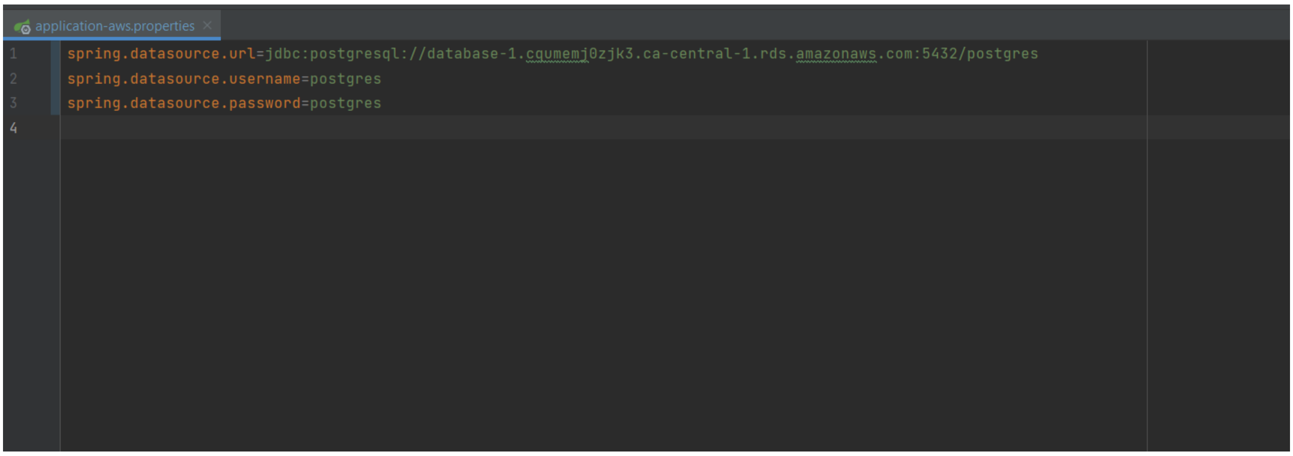
Edit inbound rules Info

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules Info

Security group rule ID	Type Info	Protocol Info	Port range Info	Source Info		Description - optional Info	
sgr-05cf67dc5d58b07a5	PostgreSQL	TCP	5432	Custom	99.211.2.207/32		Delete
–	All TCP	TCP	0 - 65535	Anywhere-IPv4	0.0.0.0/0		Delete

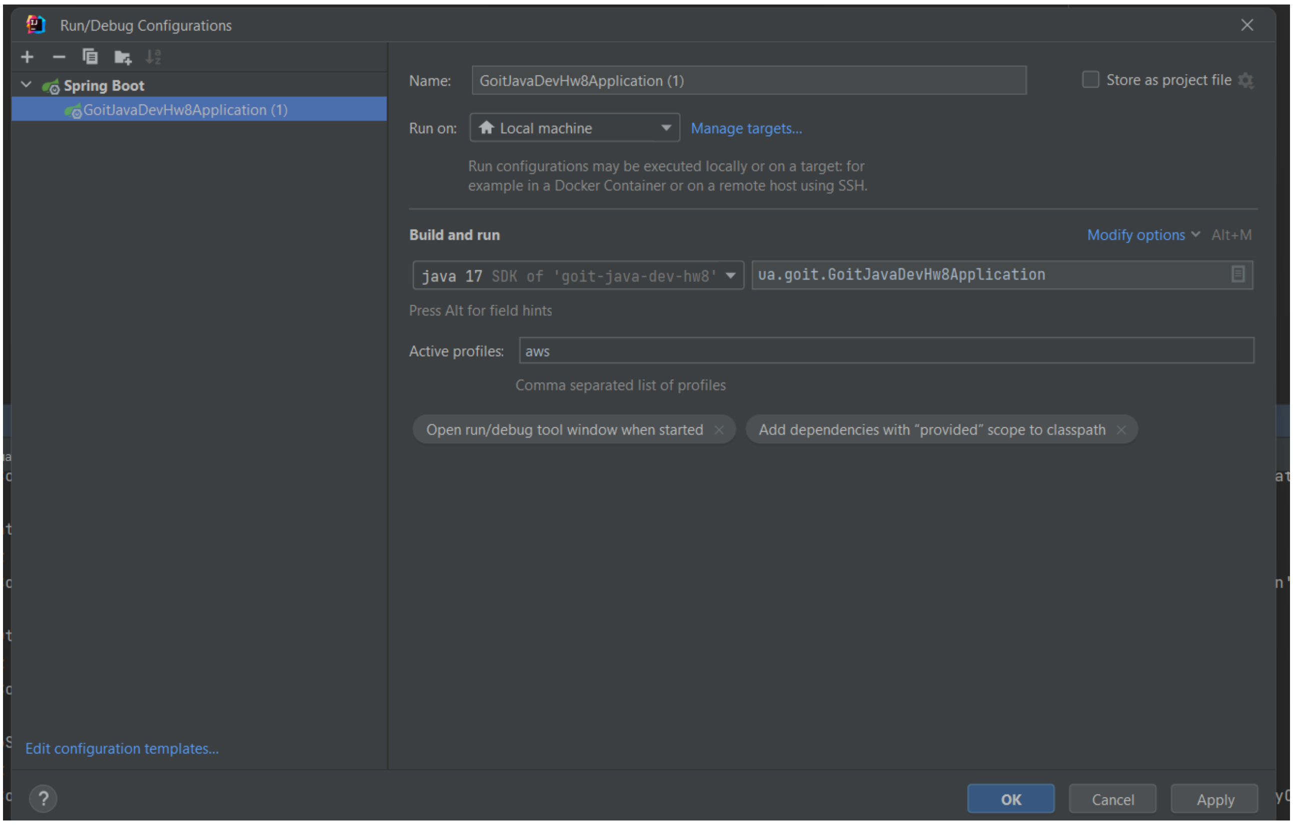
Створюємо файл налаштувань для aws



application-aws.properties

```
spring.datasource.url=jdbc:postgresql://database-1.cqumemj0zjk3.ca-central-1.rds.amazonaws.com:5432/postgres
spring.datasource.username=postgres
spring.datasource.password=postgres
```

Редагуємо в ідеї конфігурацію для старту з профілем aws



Run/Debug Configurations

Name: GoitJavaDevHw8Application (1)

□ Store as project file

Run on: Local machine Manage targets...

Run configurations may be executed locally or on a target: for example in a Docker Container or on a remote host using SSH.

Build and run

Modify options Alt+M

java 17 SDK of 'goit-java-dev-hw8' | ua.goit.GoitJavaDevHw8Application

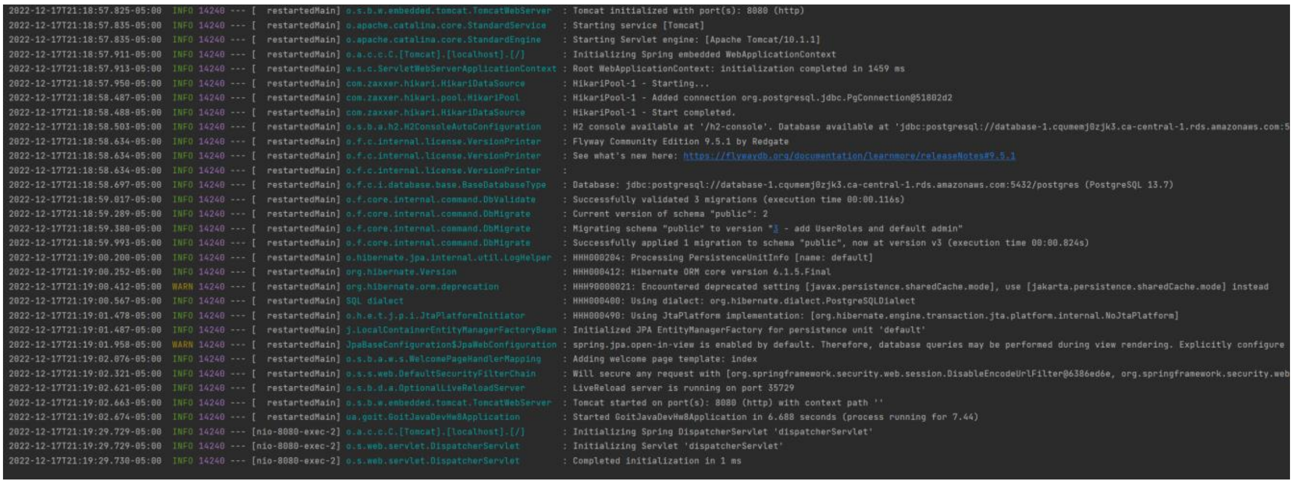
Press Alt for field hints

Active profiles: aws

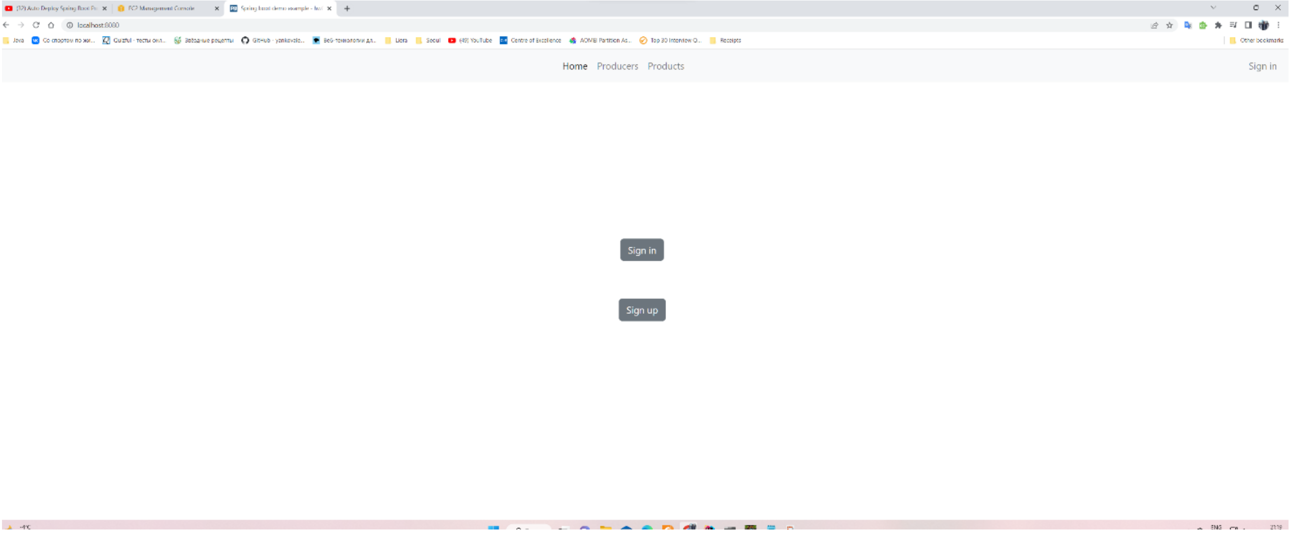
Comma separated list of profiles

Open run/debug tool window when started
Add dependencies with "provided" scope to classpath
Edit configuration templates...
OK
Cancel
Apply

Запускаємо додаток і перевіряємо чи він працює з базою даних. Не забуваємо заповнити її схемою да даними необхідними для старту

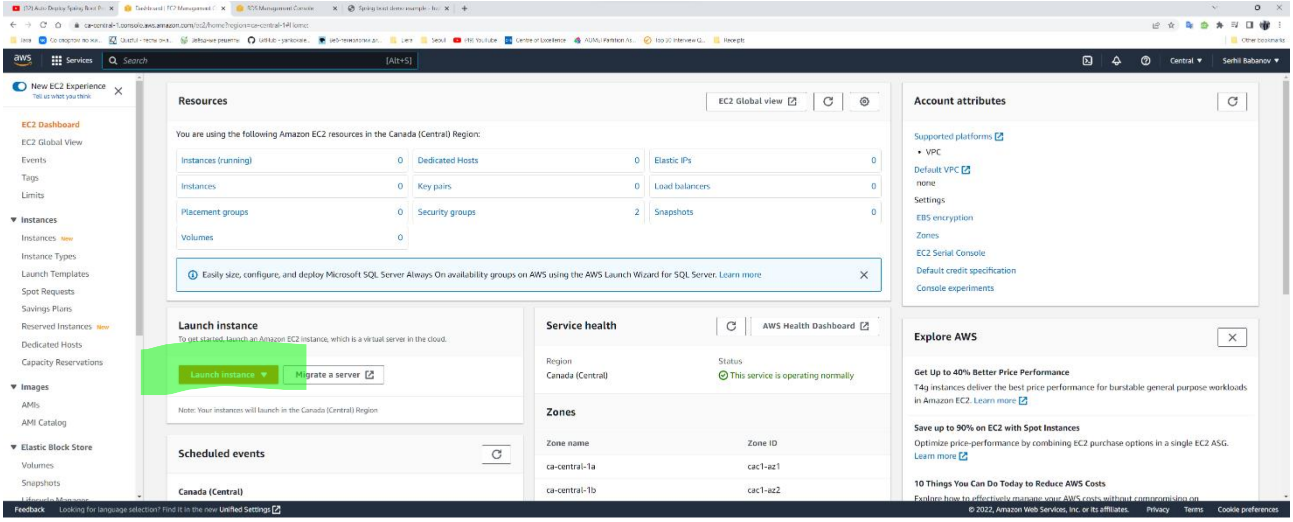


```
2022-12-17T21:18:57.825-05:00  INFO 14240 --- [  restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer  : Tomcat initialized with port(s): 8080 (http)
2022-12-17T21:18:57.835-05:00  INFO 14240 --- [  restartedMain] o.apache.catalina.core.StandardService   : Starting service [Tomcat]
2022-12-17T21:18:57.835-05:00  INFO 14240 --- [  restartedMain] o.apache.catalina.core.StandardEngine    : Starting Servlet engine: [Apache Tomcat/10.1.1]
2022-12-17T21:18:57.911-05:00  INFO 14240 --- [  restartedMain] o.a.c.c.C.[Tomcat].[localhost].[/]       : Initializing Spring embedded WebApplicationContext
2022-12-17T21:18:57.913-05:00  INFO 14240 --- [  restartedMain] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 1459 ms
2022-12-17T21:18:57.950-05:00  INFO 14240 --- [  restartedMain] com.zaxxer.hikari.HikariDataSource       : HikariPool-1 - Starting...
2022-12-17T21:18:58.487-05:00  INFO 14240 --- [  restartedMain] com.zaxxer.hikari.pool.HikariPool        : HikariPool-1 - Added connection org.postgresql.jdbc.PgConnection@51802d2
2022-12-17T21:18:58.488-05:00  INFO 14240 --- [  restartedMain] com.zaxxer.hikari.HikariDataSource       : HikariPool-1 - Start completed.
2022-12-17T21:18:58.503-05:00  INFO 14240 --- [  restartedMain] o.s.b.a.h2.H2ConsoleAutoConfiguration    : H2 console available at '/h2-console'. Database available at 'jdbc:postgresql://database-1.cqumemj0zjk3.ca-central-1.rds.amazonaws.com:5
2022-12-17T21:18:58.634-05:00  INFO 14240 --- [  restartedMain] o.f.c.internal.license.VersionPrinter    : Flyway Community Edition 9.5.1 by Redgate
2022-12-17T21:18:58.634-05:00  INFO 14240 --- [  restartedMain] o.f.c.internal.license.VersionPrinter    : See what's new here: https://flywaydb.org/documentation/learnmore/releaseNotes#9.5.1
2022-12-17T21:18:58.634-05:00  INFO 14240 --- [  restartedMain] o.f.c.internal.license.VersionPrinter    : 
2022-12-17T21:18:58.697-05:00  INFO 14240 --- [  restartedMain] o.f.c.i.database.base.BaseDatabaseType   : Database: jdbc:postgresql://database-1.cqumemj0zjk3.ca-central-1.rds.amazonaws.com:5432/postgres (PostgreSQL 13.7)
2022-12-17T21:18:59.017-05:00  INFO 14240 --- [  restartedMain] o.f.core.internal.command.DbValidate     : Successfully validated 3 migrations (execution time 00:00.116s)
2022-12-17T21:18:59.289-05:00  INFO 14240 --- [  restartedMain] o.f.core.internal.command.DbMigrate      : Current version of schema "public": 2
2022-12-17T21:18:59.380-05:00  INFO 14240 --- [  restartedMain] o.f.core.internal.command.DbMigrate      : Migrating schema "public" to version "3 - add UserRoles and default admin"
2022-12-17T21:18:59.993-05:00  INFO 14240 --- [  restartedMain] o.f.core.internal.command.DbMigrate      : Successfully applied 1 migration to schema "public", now at version v3 (execution time 00:00.824s)
2022-12-17T21:19:00.200-05:00  INFO 14240 --- [  restartedMain] o.hibernate.jpa.internal.util.LogHelper  : HHH000204: Processing PersistenceUnitInfo [name: default]
2022-12-17T21:19:00.252-05:00  INFO 14240 --- [  restartedMain] org.hibernate.Version                    : HHH000412: Hibernate ORM core version 6.1.5.Final
2022-12-17T21:19:00.412-05:00  WARN 14240 --- [  restartedMain] org.hibernate.orm.deprecation            : HHH90000021: Encountered deprecated setting [javax.persistence.sharedCache.mode], use [jakarta.persistence.sharedCache.mode] instead
2022-12-17T21:19:00.567-05:00  INFO 14240 --- [  restartedMain] SQL dialect                              : HHH000400: Using dialect: org.hibernate.dialect.PostgreSQLDialect
2022-12-17T21:19:01.478-05:00  INFO 14240 --- [  restartedMain] o.h.e.t.j.p.i.JtaPlatformInitiator       : HHH000490: Using JtaPlatform implementation: [org.hibernate.engine.transaction.jta.platform.internal.NoJtaPlatform]
2022-12-17T21:19:01.487-05:00  INFO 14240 --- [  restartedMain] j.LocalContainerEntityManagerFactoryBean : Initialized JPA EntityManagerFactory for persistence unit 'default'
2022-12-17T21:19:01.958-05:00  WARN 14240 --- [  restartedMain] JpaBaseConfiguration$JpaWebConfiguration : spring.jpa.open-in-view is enabled by default. Therefore, database queries may be performed during view rendering. Explicitly configure
2022-12-17T21:19:02.076-05:00  INFO 14240 --- [  restartedMain] o.s.b.a.w.s.WelcomePageHandlerMapping    : Adding welcome page template: index
2022-12-17T21:19:02.321-05:00  INFO 14240 --- [  restartedMain] o.s.s.web.DefaultSecurityFilterChain     : Will secure any request with [org.springframework.security.web.session.DisableEncodeUrlFilter@6386ed6e, org.springframework.security.web
2022-12-17T21:19:02.621-05:00  INFO 14240 --- [  restartedMain] o.s.b.d.a.OptionalLiveReloadServer       : LiveReload server is running on port 35729
2022-12-17T21:19:02.663-05:00  INFO 14240 --- [  restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer  : Tomcat started on port(s): 8080 (http) with context path ''
2022-12-17T21:19:02.674-05:00  INFO 14240 --- [  restartedMain] ua.goit.GoitJavaDevHw8Application        : Started GoitJavaDevHw8Application in 6.688 seconds (process running for 7.44)
2022-12-17T21:19:29.729-05:00  INFO 14240 --- [nio-8080-exec-2] o.a.c.c.C.[Tomcat].[localhost].[/]       : Initializing Spring DispatcherServlet 'dispatcherServlet'
2022-12-17T21:19:29.729-05:00  INFO 14240 --- [nio-8080-exec-2] o.s.web.servlet.DispatcherServlet        : Initializing Servlet 'dispatcherServlet'
2022-12-17T21:19:29.730-05:00  INFO 14240 --- [nio-8080-exec-2] o.s.web.servlet.DispatcherServlet        : Completed initialization in 1 ms
```



На цьому етапі ми запускаємо програму локально з використанням Amazon RDS

Наступний етап створення створення EC2 instance і деплой на нього додатку.



Resources

You are using the following Amazon EC2 resources in the Canada (Central) Region:

Instances (running)	0	Dedicated Hosts	0	Elastic IPs	0
Instances	0	Key pairs	0	Load balancers	0
Placement groups	0	Security groups	2	Snapshots	0
Volumes	0				

Easily size, configure, and deploy Microsoft SQL Server Always On availability groups on AWS using the AWS Launch Wizard for SQL Server. Learn more

Account attributes

Supported platforms

- VPC

Default VPC

none

Settings

EBS encryption

Zones

EC2 Serial Console

Default credit specification

Console experiments

Launch instance

To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.

Note: Your instances will launch in the Canada (Central) Region

Service health

Region: Canada (Central)

Status: This service is operating normally

Zones

Zone name	Zone ID
ca-central-1a	cac1-az1
ca-central-1b	cac1-az2

Explore AWS

Get Up to 40% Better Price Performance

T4g instances deliver the best price performance for burstable general purpose workloads in Amazon EC2. Learn more

Save up to 90% on EC2 with Spot Instances

Optimize price-performance by combining EC2 purchase options in a single EC2 ASG. Learn more

10 Things You Can Do Today to Reduce AWS Costs

Explore how to effectively manage your AWS costs without compromising on

Scheduled events

Canada (Central)

Looking for language selection? Find it in the new Unified Settings

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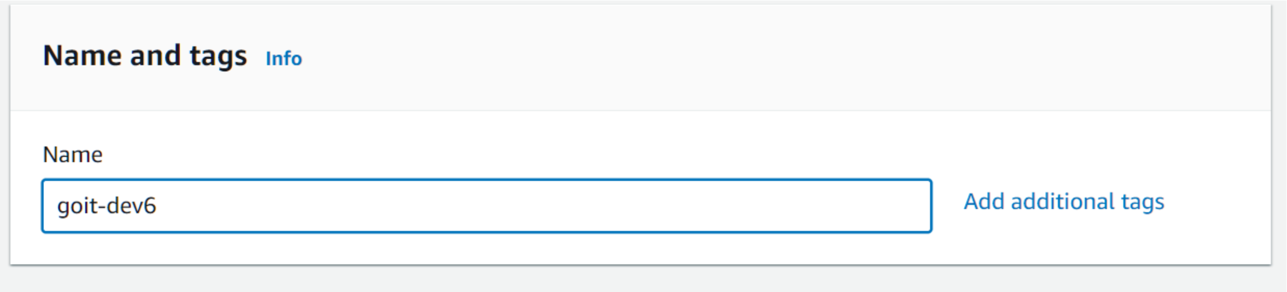
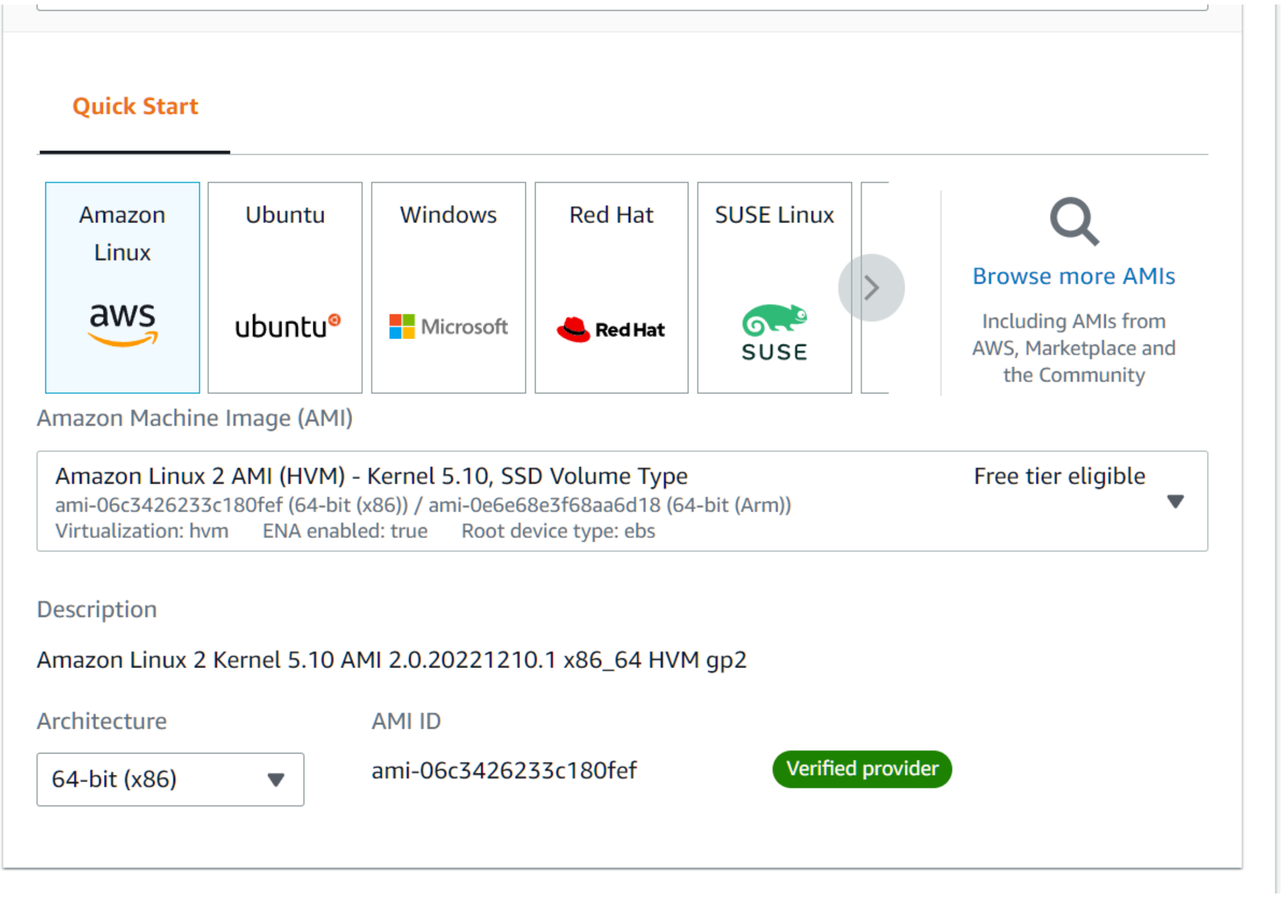


Name and tags Info

Name

goit-dev6



Amazon Machine Image (AMI)

Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type   Free tier eligible
ami-06c3426233c180fef (64-bit (x86)) / ami-0e6e68e3f68aa6d18 (64-bit (Arm))
Virtualization: hvm   ENA enabled: true   Root device type: ebs

Description

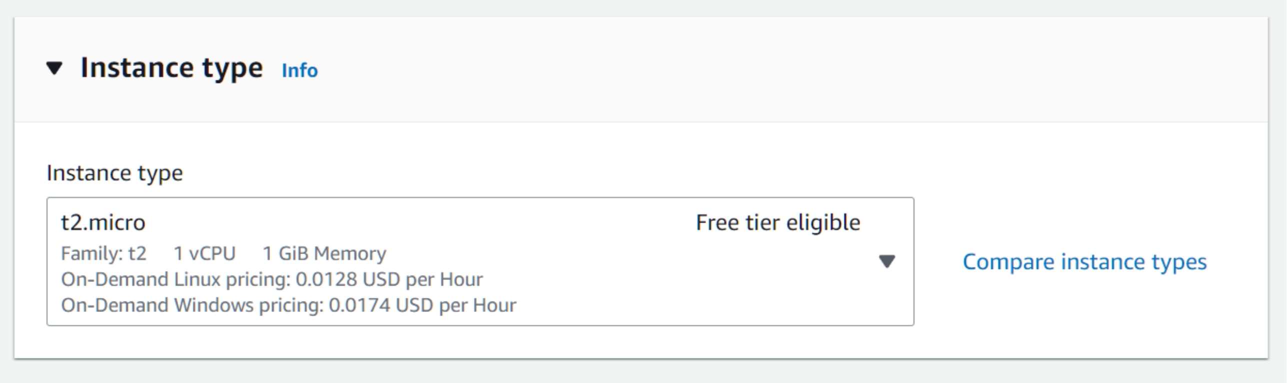
Amazon Linux 2 Kernel 5.10 AMI 2.0.20221210.1 x86_64 HVM gp2

Architecture

64-bit (x86)

AMI ID

ami-06c3426233c180fef

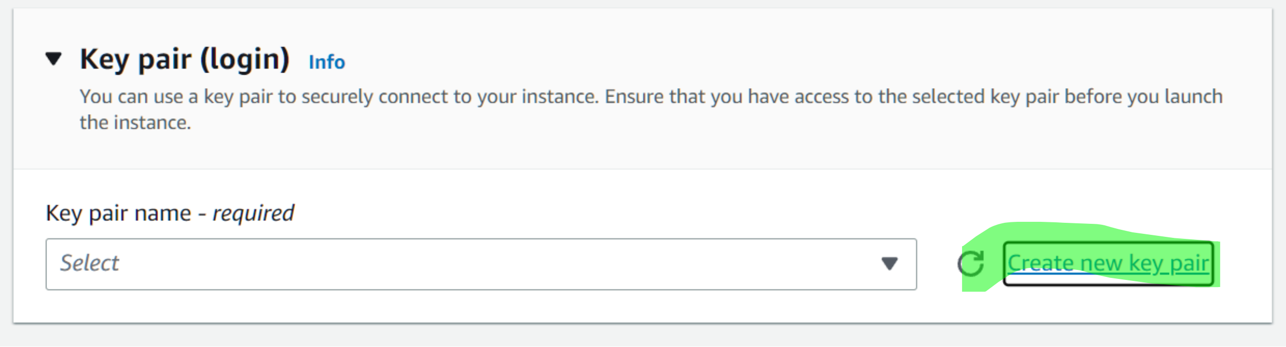


Instance type Info

Instance type

t2.micro   Free tier eligible
Family: t2   1 vCPU   1 GiB Memory
On-Demand Linux pricing: 0.0128 USD per Hour
On-Demand Windows pricing: 0.0174 USD per Hour

Обовязково створюємо цифровий ключ



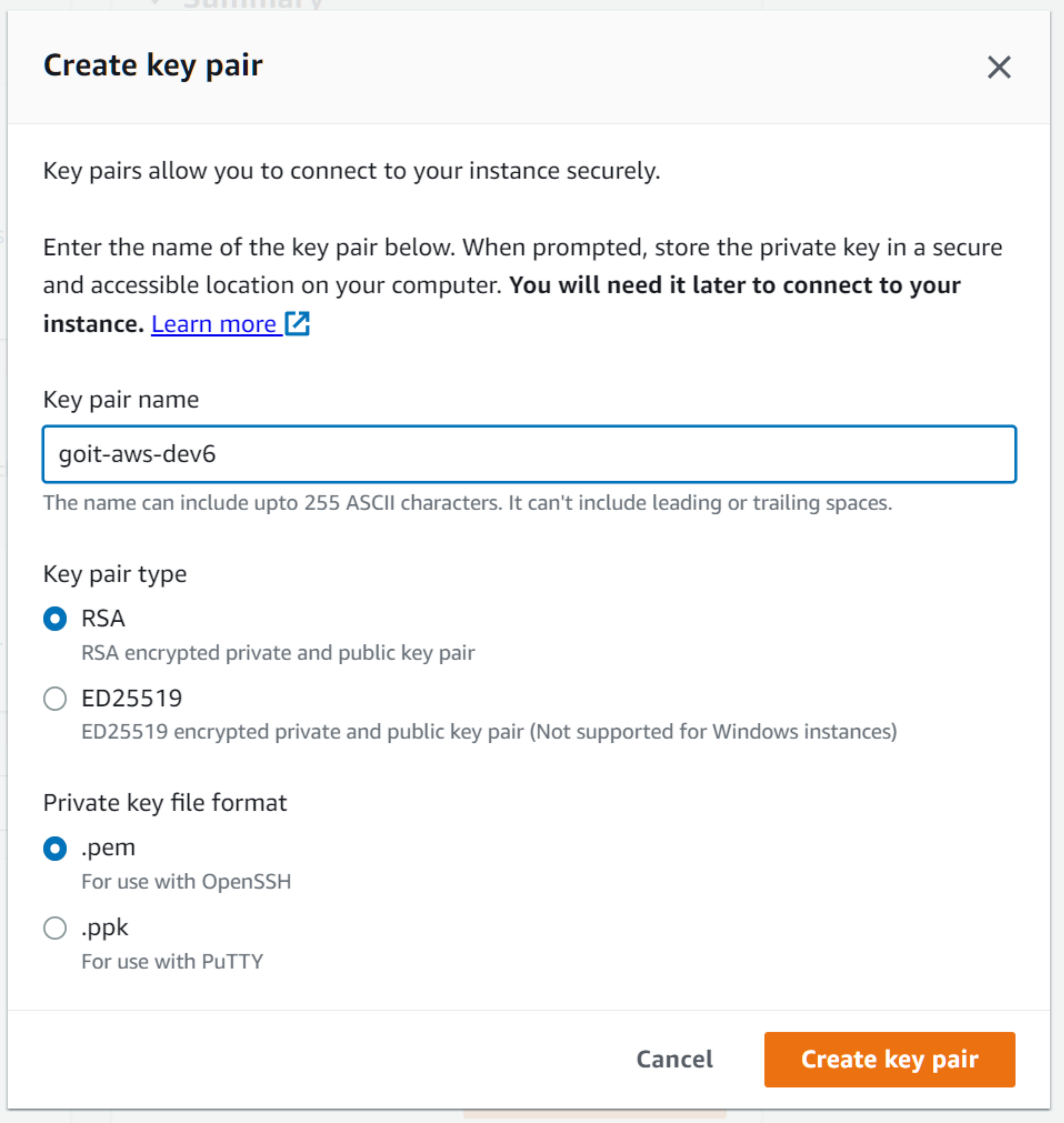
▼ **Key pair (login)** Info

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*

Select ▼

Create new key pair



Create key pair

Key pairs allow you to connect to your instance securely.

Enter the name of the key pair below. 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

Key pair name

goit-aws-dev6

The name can include upto 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

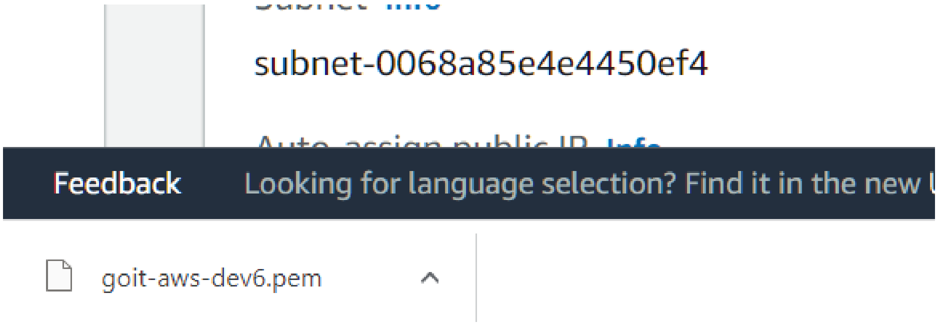
● .pem

For use with OpenSSH

○ .ppk

For use with PuTTY

Та зберігаємо в папку на диску.

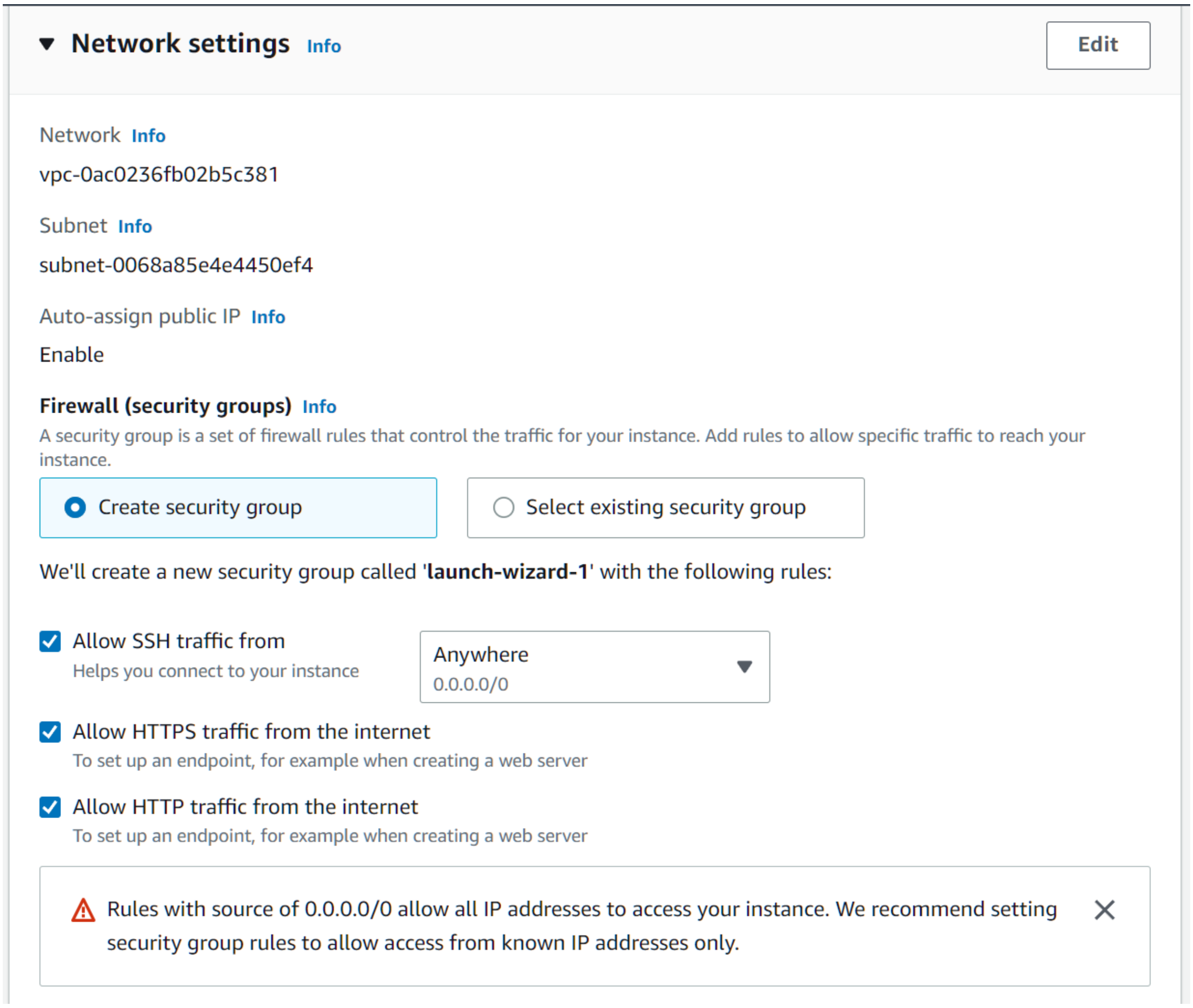


Subnet Info

subnet-0068a85e4e4450ef4

Auto-assign public IP Info

Дозволяємо весь трафік



▼ Network settings Info

Network Info

vpc-0ac0236fb02b5c381

Subnet Info

subnet-0068a85e4e4450ef4

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

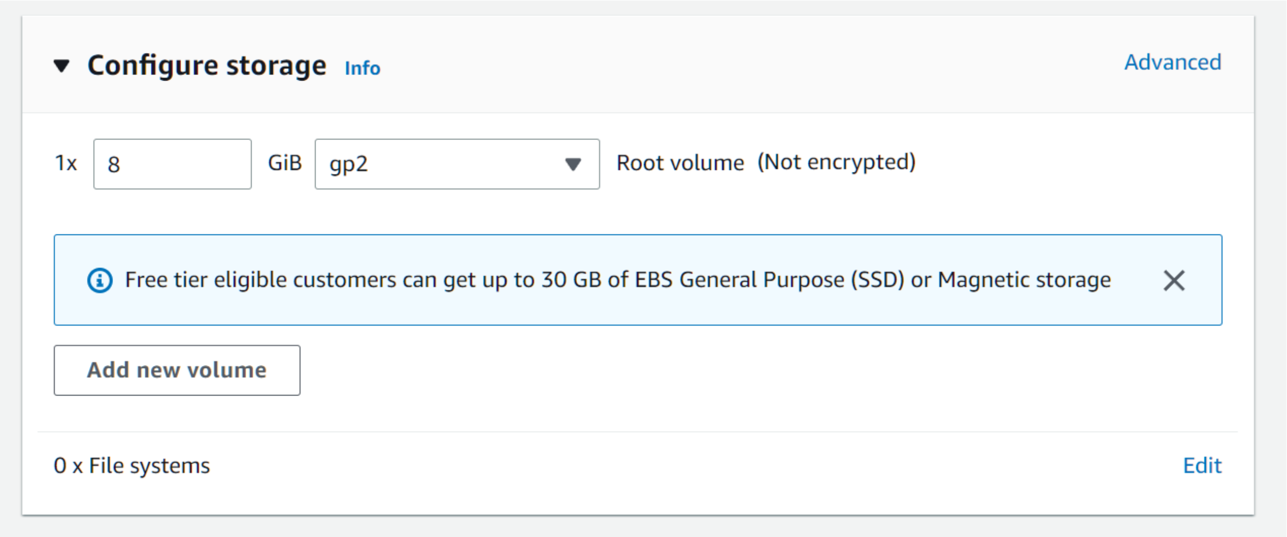
We'll create a new security group called '**launch-wizard-1**' with the following rules:

☑ Allow SSH traffic from — Anywhere 0.0.0.0/0
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

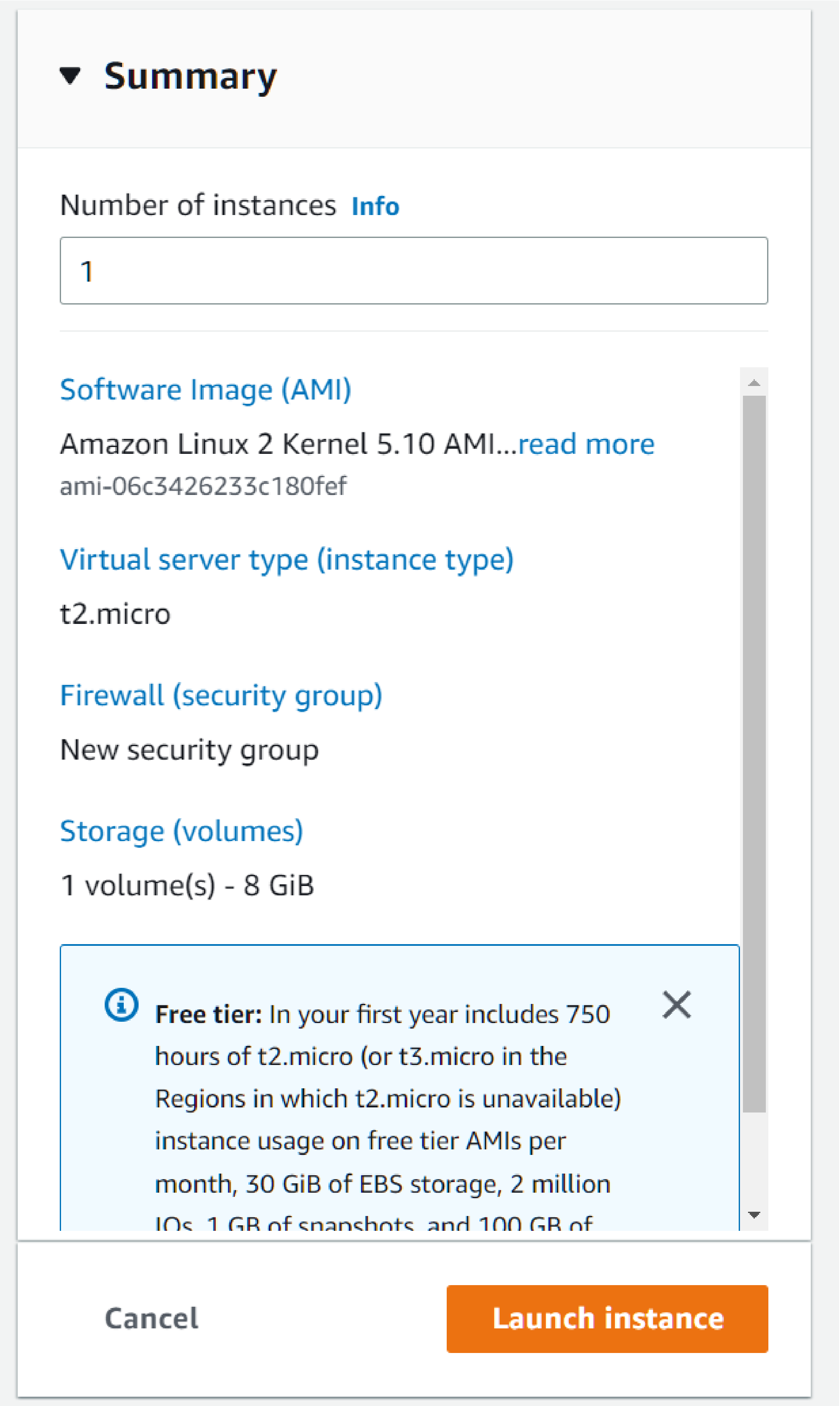
1x 8 GiB gp2 ▼ Root volume (Not encrypted)

ⓘ Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage ✕

Add new volume

0 x File systems

Edit



▼ Summary

Number of instances Info

1

Software Image (AMI)

Amazon Linux 2 Kernel 5.10 AMI...read more

ami-06c3426233c180fef

Virtual server type (instance type)

t2.micro

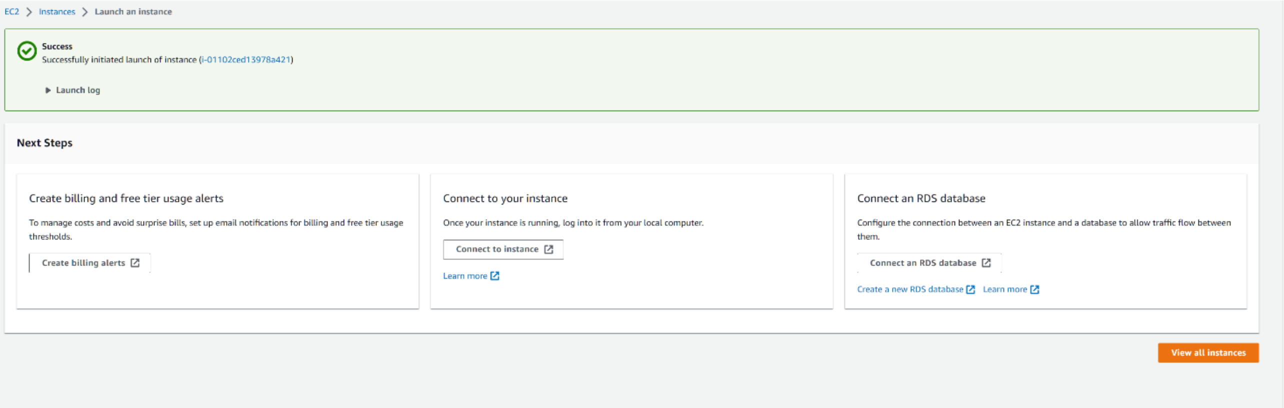
Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of



EC2 > Instances > Launch an instance

Success
Successfully initiated launch of instance (i-01102ced13978a421)

▶ Launch log

Next Steps

Create billing and free tier usage alerts

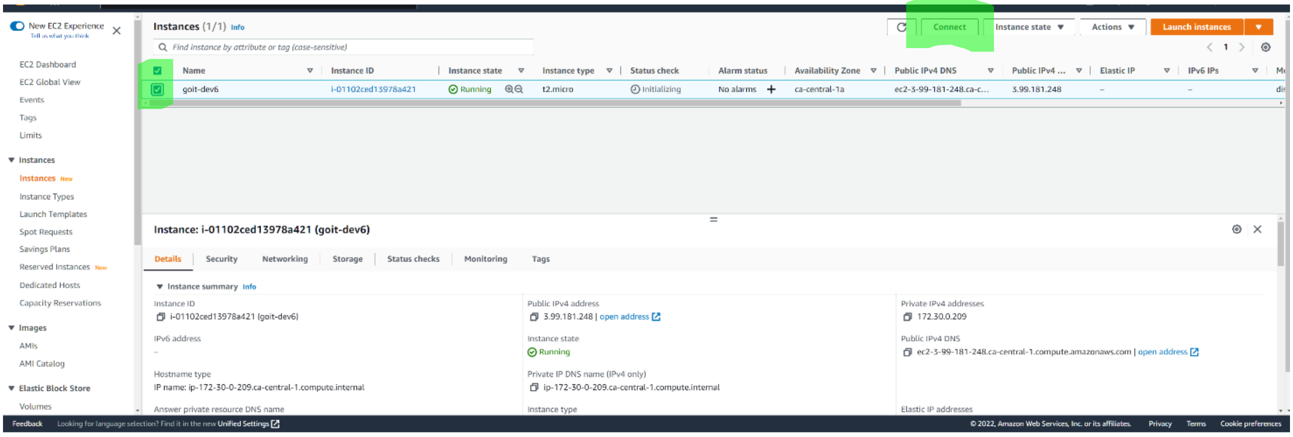
To manage costs and avoid surprise bills, set up email notifications for billing and free tier usage thresholds.

Connect to your instance

Once your instance is running, log into it from your local computer.

Connect an RDS database

Configure the connection between an EC2 instance and a database to allow traffic flow between them.



Instances (1/1) Info

☑	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP	IPv6 IPs	M
☑	goit-dev6	i-01102ced13978a421	Running	t2.micro	Initializing	No alarms	ca-central-1a	ec2-3-99-181-248.ca-c...	3.99.181.248	–	–	di

Instance: i-01102ced13978a421 (goit-dev6)

▼ Instance summary Info

Instance ID
i-01102ced13978a421 (goit-dev6)

IPv6 address
–

Hostname type
IP name: ip-172-30-0-209.ca-central-1.compute.internal

Answer private resource DNS name

Public IPv4 address
3.99.181.248 | open address

Instance state
Running

Private IP DNS name (IPv4 only)
ip-172-30-0-209.ca-central-1.compute.internal

Instance type

Private IPv4 addresses
172.30.0.209

Public IPv4 DNS
ec2-3-99-181-248.ca-central-1.compute.amazonaws.com | open address

Elastic IP addresses

Feedback
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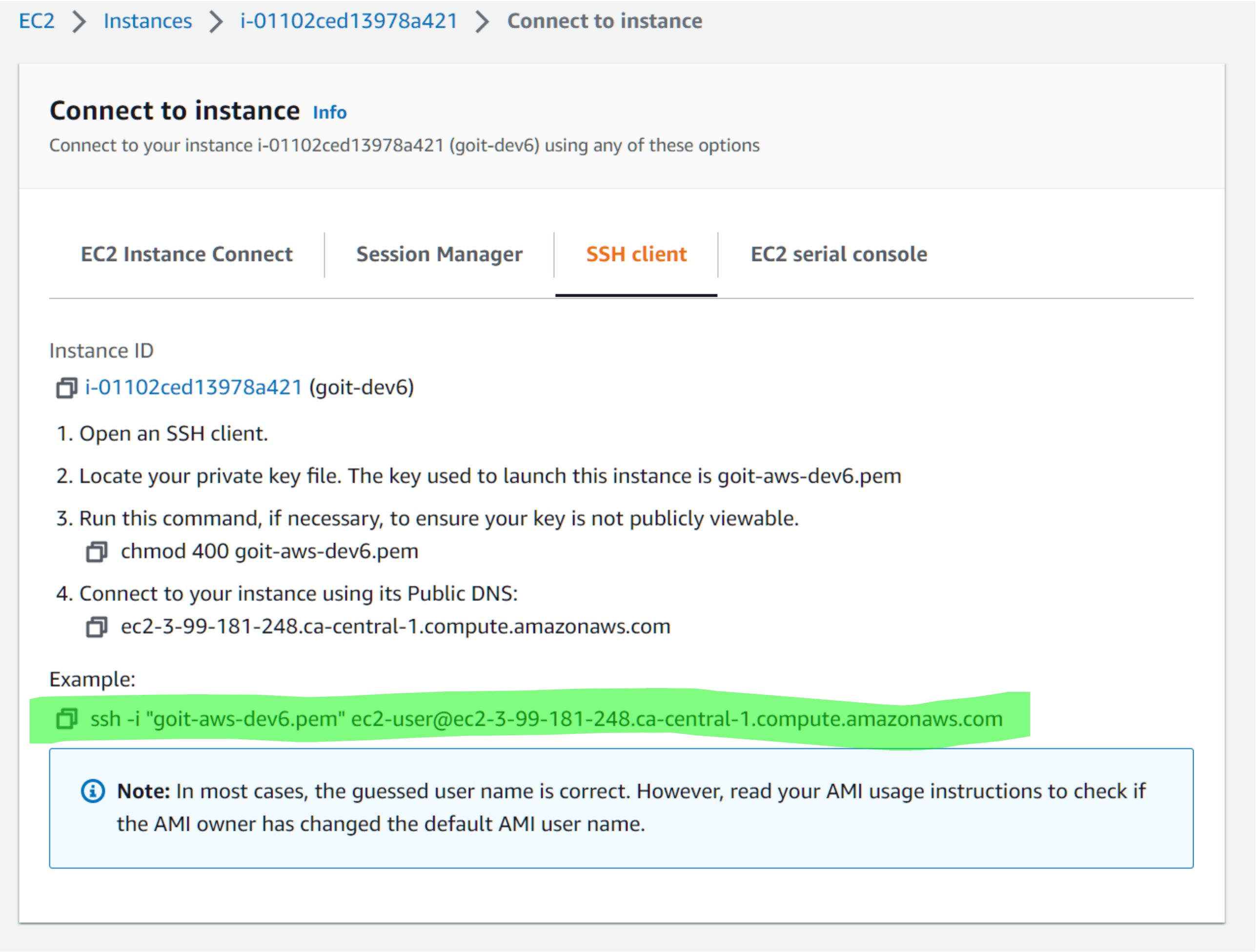
Privacy
Terms
Cookie preferences

Копіюємо команду з допомогою якої ми будемо підключатися до сервера



EC2 > Instances > i-01102ced13978a421 > Connect to instance

Connect to instance Info

Connect to your instance i-01102ced13978a421 (goit-dev6) using any of these options

Instance ID

i-01102ced13978a421 (goit-dev6)

1. Open an SSH client.
2. Locate your private key file. The key used to launch this instance is goit-aws-dev6.pem
3. Run this command, if necessary, to ensure your key is not publicly viewable.

```
chmod 400 goit-aws-dev6.pem
```

4. Connect to your instance using its Public DNS:

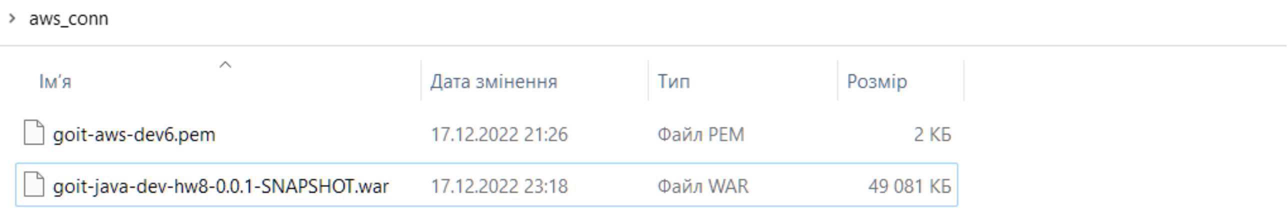
```
ec2-3-99-181-248.ca-central-1.compute.amazonaws.com
```

Example:

```
ssh -i "goit-aws-dev6.pem" ec2-user@ec2-3-99-181-248.ca-central-1.compute.amazonaws.com
```

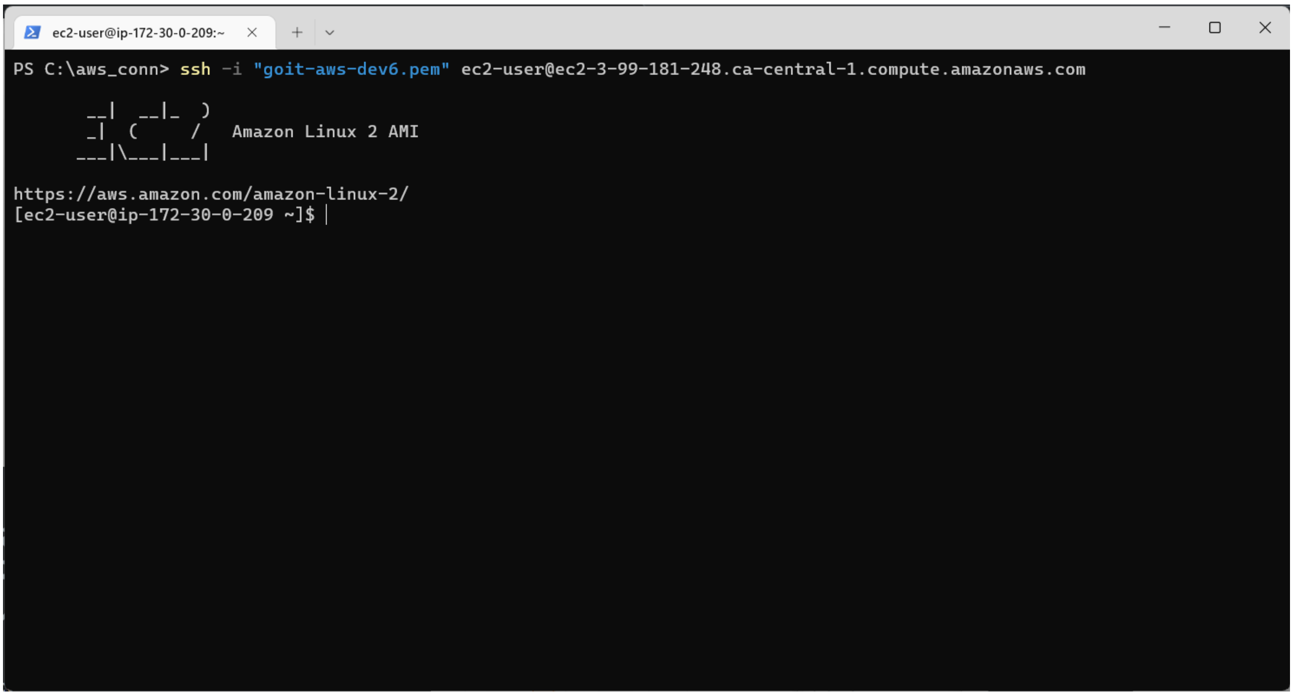
Note: In most cases, the guessed user name is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI user name.

В папці з цифровим ключем відкриваємо термінал Windows PowerShell і виконуємо команду



› aws_conn

Ім'я	Дата змінення	Тип	Розмір
goit-aws-dev6.pem	17.12.2022 21:26	Файл PEM	2 КБ
goit-java-dev-hw8-0.0.1-SNAPSHOT.war	17.12.2022 23:18	Файл WAR	49 081 КБ

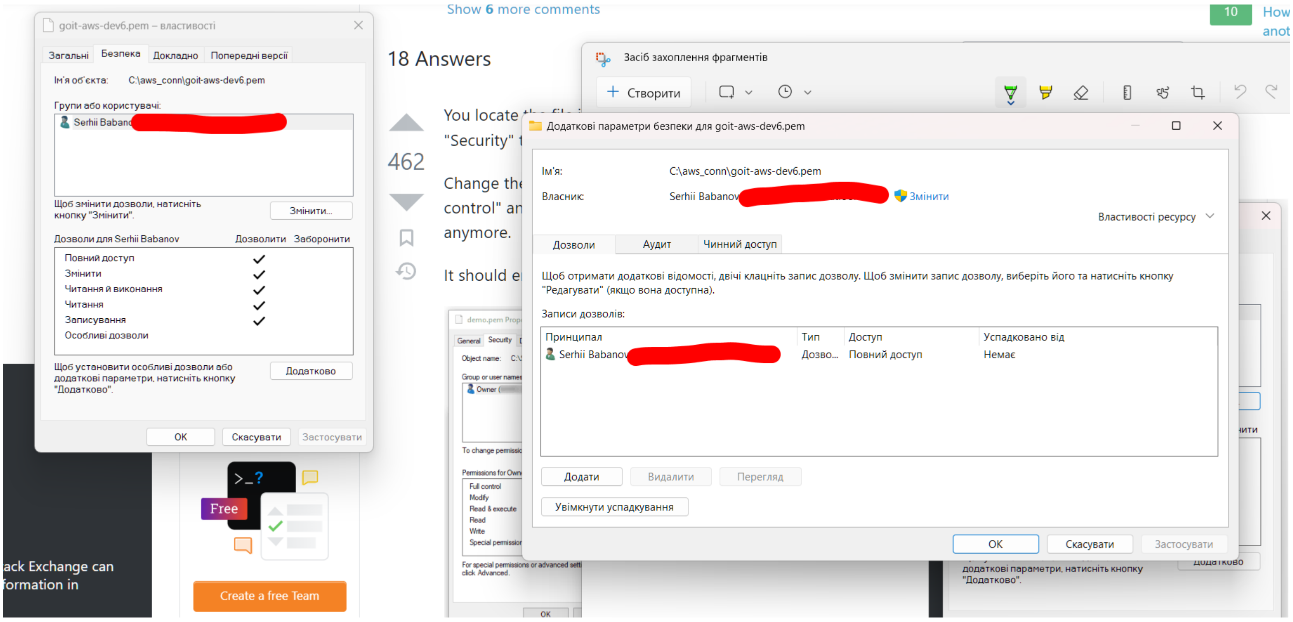


```
PS C:\aws_conn> ssh -i "goit-aws-dev6.pem" ec2-user@ec2-3-99-181-248.ca-central-1.compute.amazonaws.com

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-30-0-209 ~]$
```

Створюємо папку tmp

mkdir tmp

Якщо пише що ключ має заширокі права доступу і не дійсний, змінюємо власника ключа на поточного користувача.



goit-aws-dev6.pem – властивості

Загальні | Безпека | Докладно | Попередні версії

Ім'я об'єкта: C:\aws_conn\goit-aws-dev6.pem

Групи або користувачі:

Serhii Babanc[redacted]

Щоб змінити дозволи, натисніть кнопку "Змінити". Змінити...

Дозволи для Serhii Babanov	Дозволити	Заборонити
Повний доступ	✓	
Змінити	✓	
Читання й виконання	✓	
Читання	✓	
Записування	✓	
Особливі дозволи		

Щоб установити особливі дозволи або додаткові параметри, натисніть кнопку "Додатково". Додатково

OK | Скасувати | Застосувати

Додаткові параметри безпеки для goit-aws-dev6.pem

Ім'я: C:\aws_conn\goit-aws-dev6.pem

Власник: Serhii Babanov[redacted] Змінити

Властивості ресурсу

Дозволи | Аудит | Чинний доступ

Щоб отримати додаткові відомості, двічі клацніть запис дозволу. Щоб змінити запис дозволу, виберіть його та натисніть кнопку "Редагувати" (якщо вона доступна).

Записи дозволів:

Принципал	Тип	Доступ	Успадковано від
Serhii Babanov[redacted]	Дозво...	Повний доступ	Немає

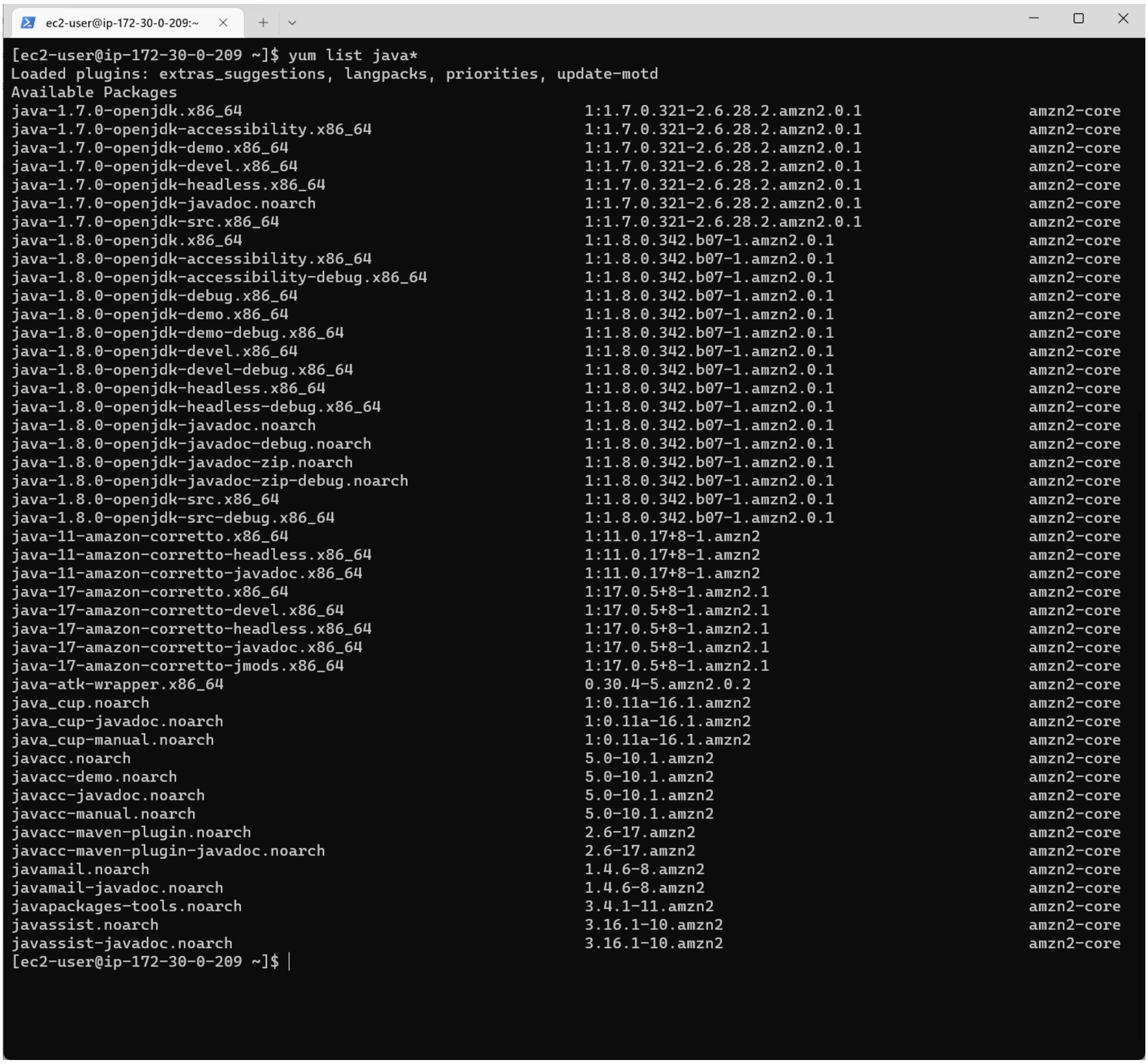
Додати | Видалити | Перегляд

Увімкнути успадкування

OK | Скасувати | Застосувати

Виводимо лист доступних пакетів для встановлення java

yum list java*

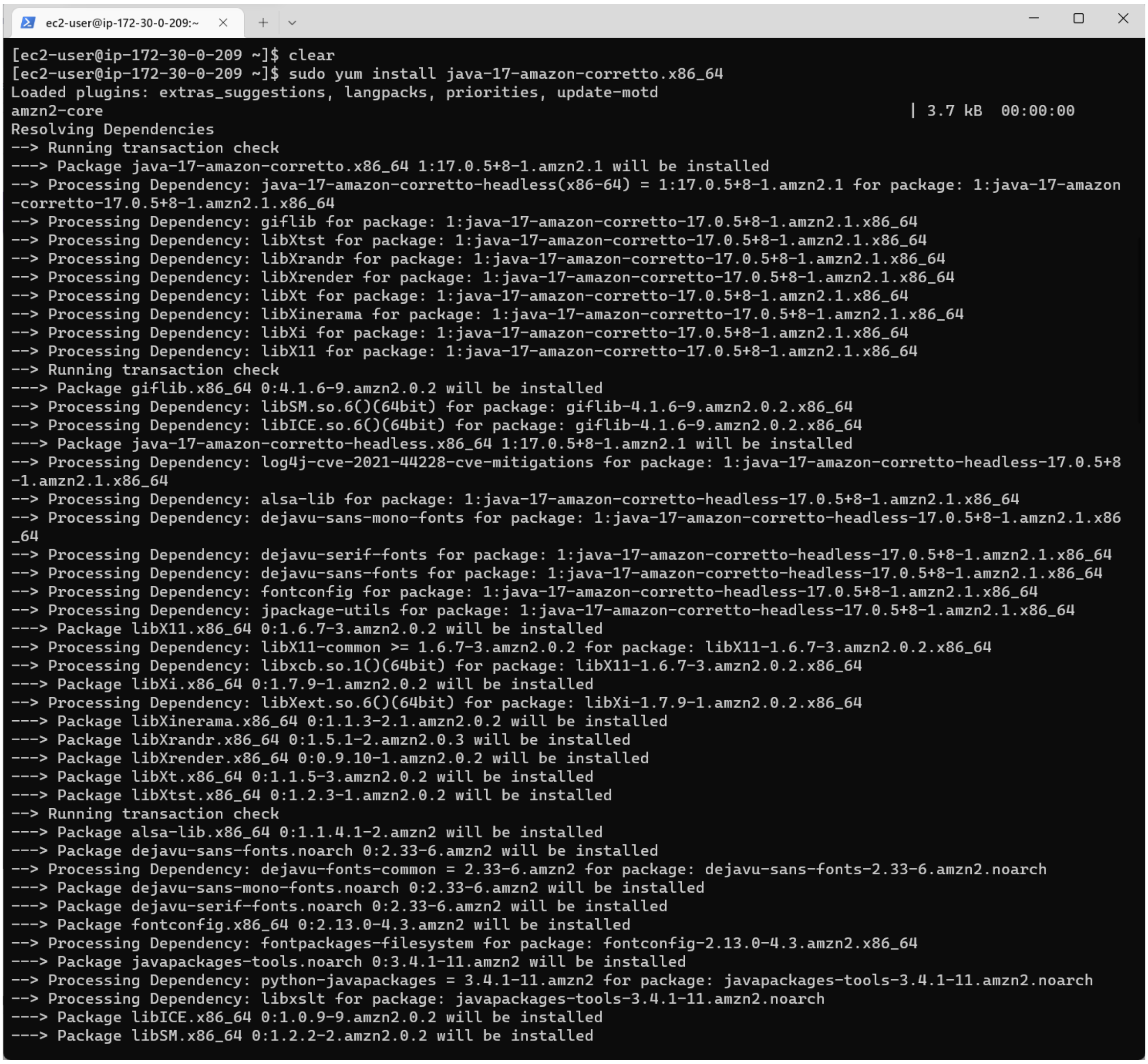


```
[ec2-user@ip-172-30-0-209 ~]$ yum list java*
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Available Packages
java-1.7.0-openjdk.x86_64                                     1:1.7.0.321-2.6.28.2.amzn2.0.1                    amzn2-core
java-1.7.0-openjdk-accessibility.x86_64                       1:1.7.0.321-2.6.28.2.amzn2.0.1                    amzn2-core
java-1.7.0-openjdk-demo.x86_64                                1:1.7.0.321-2.6.28.2.amzn2.0.1                    amzn2-core
java-1.7.0-openjdk-devel.x86_64                               1:1.7.0.321-2.6.28.2.amzn2.0.1                    amzn2-core
java-1.7.0-openjdk-headless.x86_64                            1:1.7.0.321-2.6.28.2.amzn2.0.1                    amzn2-core
java-1.7.0-openjdk-javadoc.noarch                             1:1.7.0.321-2.6.28.2.amzn2.0.1                    amzn2-core
java-1.7.0-openjdk-src.x86_64                                 1:1.7.0.321-2.6.28.2.amzn2.0.1                    amzn2-core
java-1.8.0-openjdk.x86_64                                     1:1.8.0.342.b07-1.amzn2.0.1                       amzn2-core
java-1.8.0-openjdk-accessibility.x86_64                       1:1.8.0.342.b07-1.amzn2.0.1                       amzn2-core
java-1.8.0-openjdk-accessibility-debug.x86_64                 1:1.8.0.342.b07-1.amzn2.0.1                       amzn2-core
java-1.8.0-openjdk-debug.x86_64                               1:1.8.0.342.b07-1.amzn2.0.1                       amzn2-core
java-1.8.0-openjdk-demo.x86_64                                1:1.8.0.342.b07-1.amzn2.0.1                       amzn2-core
java-1.8.0-openjdk-demo-debug.x86_64                          1:1.8.0.342.b07-1.amzn2.0.1                       amzn2-core
java-1.8.0-openjdk-devel.x86_64                               1:1.8.0.342.b07-1.amzn2.0.1                       amzn2-core
java-1.8.0-openjdk-devel-debug.x86_64                         1:1.8.0.342.b07-1.amzn2.0.1                       amzn2-core
java-1.8.0-openjdk-headless.x86_64                            1:1.8.0.342.b07-1.amzn2.0.1                       amzn2-core
java-1.8.0-openjdk-headless-debug.x86_64                      1:1.8.0.342.b07-1.amzn2.0.1                       amzn2-core
java-1.8.0-openjdk-javadoc.noarch                             1:1.8.0.342.b07-1.amzn2.0.1                       amzn2-core
java-1.8.0-openjdk-javadoc-debug.noarch                       1:1.8.0.342.b07-1.amzn2.0.1                       amzn2-core
java-1.8.0-openjdk-javadoc-zip.noarch                         1:1.8.0.342.b07-1.amzn2.0.1                       amzn2-core
java-1.8.0-openjdk-javadoc-zip-debug.noarch                   1:1.8.0.342.b07-1.amzn2.0.1                       amzn2-core
java-1.8.0-openjdk-src.x86_64                                 1:1.8.0.342.b07-1.amzn2.0.1                       amzn2-core
java-1.8.0-openjdk-src-debug.x86_64                           1:1.8.0.342.b07-1.amzn2.0.1                       amzn2-core
java-11-amazon-corretto.x86_64                                1:11.0.17+8-1.amzn2                               amzn2-core
java-11-amazon-corretto-headless.x86_64                       1:11.0.17+8-1.amzn2                               amzn2-core
java-11-amazon-corretto-javadoc.x86_64                        1:11.0.17+8-1.amzn2                               amzn2-core
java-17-amazon-corretto.x86_64                                1:17.0.5+8-1.amzn2.1                              amzn2-core
java-17-amazon-corretto-devel.x86_64                          1:17.0.5+8-1.amzn2.1                              amzn2-core
java-17-amazon-corretto-headless.x86_64                       1:17.0.5+8-1.amzn2.1                              amzn2-core
java-17-amazon-corretto-javadoc.x86_64                        1:17.0.5+8-1.amzn2.1                              amzn2-core
java-17-amazon-corretto-jmods.x86_64                          1:17.0.5+8-1.amzn2.1                              amzn2-core
java-atk-wrapper.x86_64                                       0.30.4-5.amzn2.0.2                                amzn2-core
java_cup.noarch                                               1:0.11a-16.1.amzn2                                amzn2-core
java_cup-javadoc.noarch                                       1:0.11a-16.1.amzn2                                amzn2-core
java_cup-manual.noarch                                        1:0.11a-16.1.amzn2                                amzn2-core
javacc.noarch                                                 5.0-10.1.amzn2                                    amzn2-core
javacc-demo.noarch                                            5.0-10.1.amzn2                                    amzn2-core
javacc-javadoc.noarch                                         5.0-10.1.amzn2                                    amzn2-core
javacc-manual.noarch                                          5.0-10.1.amzn2                                    amzn2-core
javacc-maven-plugin.noarch                                    2.6-17.amzn2                                      amzn2-core
javacc-maven-plugin-javadoc.noarch                            2.6-17.amzn2                                      amzn2-core
javamail.noarch                                               1.4.6-8.amzn2                                     amzn2-core
javamail-javadoc.noarch                                       1.4.6-8.amzn2                                     amzn2-core
javapackages-tools.noarch                                     3.4.1-11.amzn2                                    amzn2-core
javassist.noarch                                              3.16.1-10.amzn2                                   amzn2-core
javassist-javadoc.noarch                                      3.16.1-10.amzn2                                   amzn2-core
[ec2-user@ip-172-30-0-209 ~]$ |
```

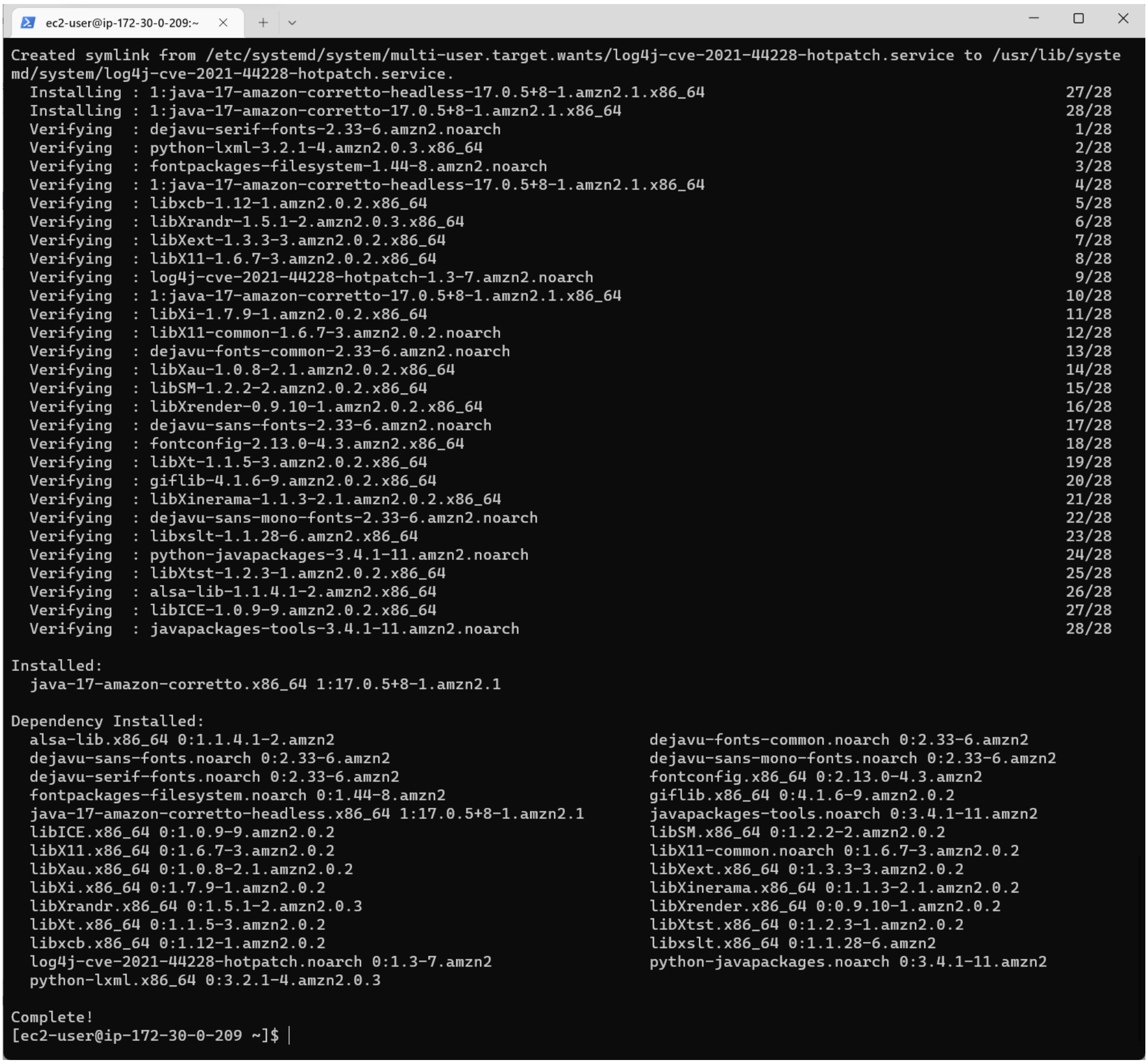
Встановлюємо доступну java

sudo yum install java-17-amazon-corretto.x86_64

Де необхідно вводимо yes

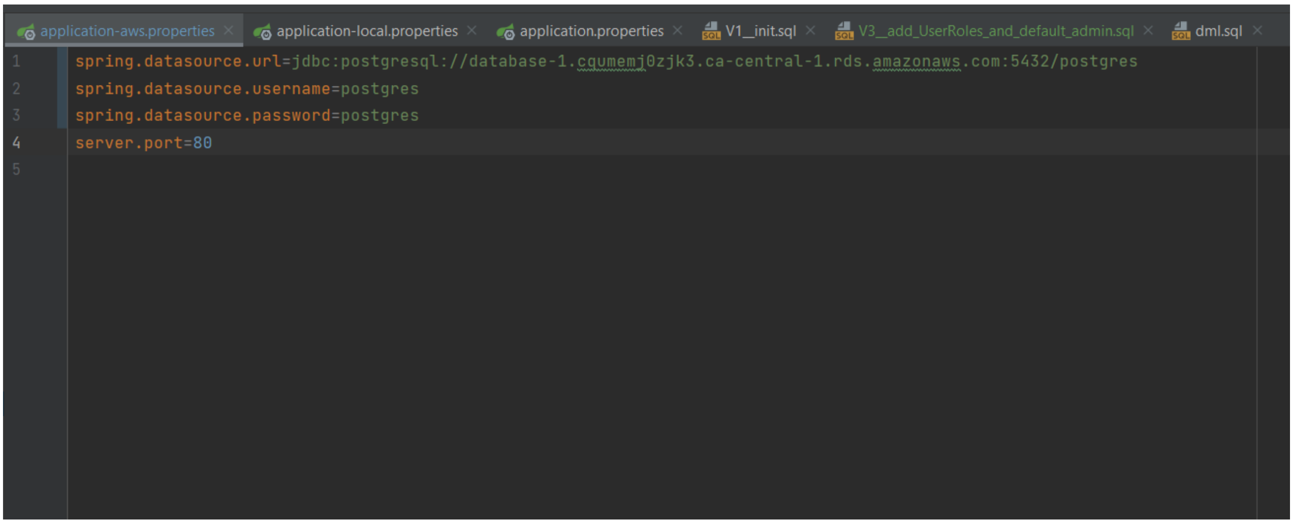


```
[ec2-user@ip-172-30-0-209 ~]$ clear
[ec2-user@ip-172-30-0-209 ~]$ sudo yum install java-17-amazon-corretto.x86_64
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core                                                                                  | 3.7 kB  00:00:00
Resolving Dependencies
--> Running transaction check
---> Package java-17-amazon-corretto.x86_64 1:17.0.5+8-1.amzn2.1 will be installed
--> Processing Dependency: java-17-amazon-corretto-headless(x86-64) = 1:17.0.5+8-1.amzn2.1 for package: 1:java-17-amazon
-corretto-17.0.5+8-1.amzn2.1.x86_64
--> Processing Dependency: giflib for package: 1:java-17-amazon-corretto-17.0.5+8-1.amzn2.1.x86_64
--> Processing Dependency: libXtst for package: 1:java-17-amazon-corretto-17.0.5+8-1.amzn2.1.x86_64
--> Processing Dependency: libXrandr for package: 1:java-17-amazon-corretto-17.0.5+8-1.amzn2.1.x86_64
--> Processing Dependency: libXrender for package: 1:java-17-amazon-corretto-17.0.5+8-1.amzn2.1.x86_64
--> Processing Dependency: libXt for package: 1:java-17-amazon-corretto-17.0.5+8-1.amzn2.1.x86_64
--> Processing Dependency: libXinerama for package: 1:java-17-amazon-corretto-17.0.5+8-1.amzn2.1.x86_64
--> Processing Dependency: libXi for package: 1:java-17-amazon-corretto-17.0.5+8-1.amzn2.1.x86_64
--> Processing Dependency: libX11 for package: 1:java-17-amazon-corretto-17.0.5+8-1.amzn2.1.x86_64
--> Running transaction check
---> Package giflib.x86_64 0:4.1.6-9.amzn2.0.2 will be installed
--> Processing Dependency: libSM.so.6()(64bit) for package: giflib-4.1.6-9.amzn2.0.2.x86_64
--> Processing Dependency: libICE.so.6()(64bit) for package: giflib-4.1.6-9.amzn2.0.2.x86_64
---> Package java-17-amazon-corretto-headless.x86_64 1:17.0.5+8-1.amzn2.1 will be installed
--> Processing Dependency: log4j-cve-2021-44228-cve-mitigations for package: 1:java-17-amazon-corretto-headless-17.0.5+8
-1.amzn2.1.x86_64
--> Processing Dependency: alsa-lib for package: 1:java-17-amazon-corretto-headless-17.0.5+8-1.amzn2.1.x86_64
--> Processing Dependency: dejavu-sans-mono-fonts for package: 1:java-17-amazon-corretto-headless-17.0.5+8-1.amzn2.1.x86
_64
--> Processing Dependency: dejavu-serif-fonts for package: 1:java-17-amazon-corretto-headless-17.0.5+8-1.amzn2.1.x86_64
--> Processing Dependency: dejavu-sans-fonts for package: 1:java-17-amazon-corretto-headless-17.0.5+8-1.amzn2.1.x86_64
--> Processing Dependency: fontconfig for package: 1:java-17-amazon-corretto-headless-17.0.5+8-1.amzn2.1.x86_64
--> Processing Dependency: jpackage-utils for package: 1:java-17-amazon-corretto-headless-17.0.5+8-1.amzn2.1.x86_64
---> Package libX11.x86_64 0:1.6.7-3.amzn2.0.2 will be installed
--> Processing Dependency: libX11-common >= 1.6.7-3.amzn2.0.2 for package: libX11-1.6.7-3.amzn2.0.2.x86_64
--> Processing Dependency: libxcb.so.1()(64bit) for package: libX11-1.6.7-3.amzn2.0.2.x86_64
---> Package libXi.x86_64 0:1.7.9-1.amzn2.0.2 will be installed
--> Processing Dependency: libXext.so.6()(64bit) for package: libXi-1.7.9-1.amzn2.0.2.x86_64
---> Package libXinerama.x86_64 0:1.1.3-2.1.amzn2.0.2 will be installed
---> Package libXrandr.x86_64 0:1.5.1-2.amzn2.0.3 will be installed
---> Package libXrender.x86_64 0:0.9.10-1.amzn2.0.2 will be installed
---> Package libXt.x86_64 0:1.1.5-3.amzn2.0.2 will be installed
---> Package libXtst.x86_64 0:1.2.3-1.amzn2.0.2 will be installed
--> Running transaction check
---> Package alsa-lib.x86_64 0:1.1.4.1-2.amzn2 will be installed
---> Package dejavu-sans-fonts.noarch 0:2.33-6.amzn2 will be installed
--> Processing Dependency: dejavu-fonts-common = 2.33-6.amzn2 for package: dejavu-sans-fonts-2.33-6.amzn2.noarch
---> Package dejavu-sans-mono-fonts.noarch 0:2.33-6.amzn2 will be installed
---> Package dejavu-serif-fonts.noarch 0:2.33-6.amzn2 will be installed
---> Package fontconfig.x86_64 0:2.13.0-4.3.amzn2 will be installed
--> Processing Dependency: fontpackages-filesystem for package: fontconfig-2.13.0-4.3.amzn2.x86_64
---> Package javapackages-tools.noarch 0:3.4.1-11.amzn2 will be installed
--> Processing Dependency: python-javapackages = 3.4.1-11.amzn2 for package: javapackages-tools-3.4.1-11.amzn2.noarch
--> Processing Dependency: libxslt for package: javapackages-tools-3.4.1-11.amzn2.noarch
---> Package libICE.x86_64 0:1.0.9-9.amzn2.0.2 will be installed
---> Package libSM.x86_64 0:1.2.2-2.amzn2.0.2 will be installed
```



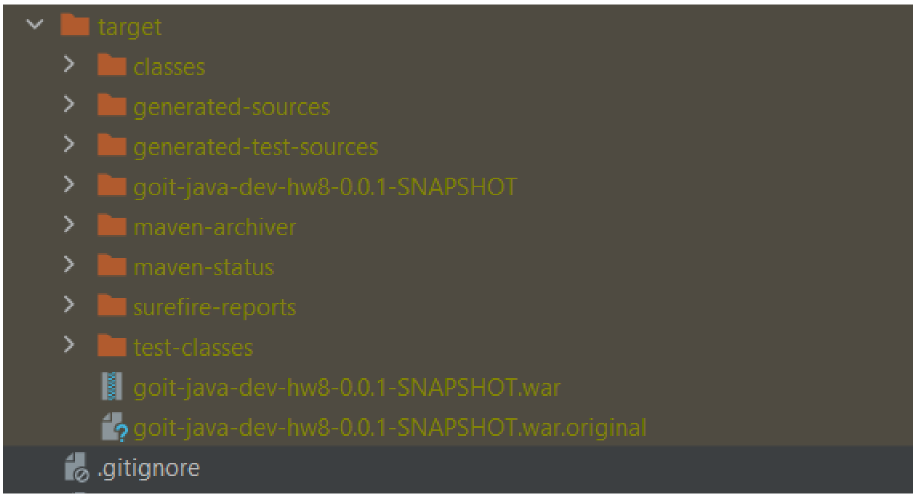
```
Created symlink from /etc/systemd/system/multi-user.target.wants/log4j-cve-2021-44228-hotpatch.service to /usr/lib/syste
md/system/log4j-cve-2021-44228-hotpatch.service.
  Installing : 1:java-17-amazon-corretto-headless-17.0.5+8-1.amzn2.1.x86_64                                        27/28
  Installing : 1:java-17-amazon-corretto-17.0.5+8-1.amzn2.1.x86_64                                                 28/28
  Verifying  : dejavu-serif-fonts-2.33-6.amzn2.noarch                                                               1/28
  Verifying  : python-lxml-3.2.1-4.amzn2.0.3.x86_64                                                                 2/28
  Verifying  : fontpackages-filesystem-1.44-8.amzn2.noarch                                                          3/28
  Verifying  : 1:java-17-amazon-corretto-headless-17.0.5+8-1.amzn2.1.x86_64                                         4/28
  Verifying  : libxcb-1.12-1.amzn2.0.2.x86_64                                                                       5/28
  Verifying  : libXrandr-1.5.1-2.amzn2.0.3.x86_64                                                                   6/28
  Verifying  : libXext-1.3.3-3.amzn2.0.2.x86_64                                                                     7/28
  Verifying  : libX11-1.6.7-3.amzn2.0.2.x86_64                                                                      8/28
  Verifying  : log4j-cve-2021-44228-hotpatch-1.3-7.amzn2.noarch                                                     9/28
  Verifying  : 1:java-17-amazon-corretto-17.0.5+8-1.amzn2.1.x86_64                                                 10/28
  Verifying  : libXi-1.7.9-1.amzn2.0.2.x86_64                                                                      11/28
  Verifying  : libX11-common-1.6.7-3.amzn2.0.2.noarch                                                              12/28
  Verifying  : dejavu-fonts-common-2.33-6.amzn2.noarch                                                             13/28
  Verifying  : libXau-1.0.8-2.1.amzn2.0.2.x86_64                                                                   14/28
  Verifying  : libSM-1.2.2-2.amzn2.0.2.x86_64                                                                      15/28
  Verifying  : libXrender-0.9.10-1.amzn2.0.2.x86_64                                                                16/28
  Verifying  : dejavu-sans-fonts-2.33-6.amzn2.noarch                                                               17/28
  Verifying  : fontconfig-2.13.0-4.3.amzn2.x86_64                                                                  18/28
  Verifying  : libXt-1.1.5-3.amzn2.0.2.x86_64                                                                      19/28
  Verifying  : giflib-4.1.6-9.amzn2.0.2.x86_64                                                                     20/28
  Verifying  : libXinerama-1.1.3-2.1.amzn2.0.2.x86_64                                                              21/28
  Verifying  : dejavu-sans-mono-fonts-2.33-6.amzn2.noarch                                                          22/28
  Verifying  : libxslt-1.1.28-6.amzn2.x86_64                                                                       23/28
  Verifying  : python-javapackages-3.4.1-11.amzn2.noarch                                                           24/28
  Verifying  : libXtst-1.2.3-1.amzn2.0.2.x86_64                                                                    25/28
  Verifying  : alsa-lib-1.1.4.1-2.amzn2.x86_64                                                                     26/28
  Verifying  : libICE-1.0.9-9.amzn2.0.2.x86_64                                                                     27/28
  Verifying  : javapackages-tools-3.4.1-11.amzn2.noarch                                                            28/28

Installed:
  java-17-amazon-corretto.x86_64 1:17.0.5+8-1.amzn2.1

Dependency Installed:
  alsa-lib.x86_64 0:1.1.4.1-2.amzn2                                    dejavu-fonts-common.noarch 0:2.33-6.amzn2
  dejavu-sans-fonts.noarch 0:2.33-6.amzn2                              dejavu-sans-mono-fonts.noarch 0:2.33-6.amzn2
  dejavu-serif-fonts.noarch 0:2.33-6.amzn2                             fontconfig.x86_64 0:2.13.0-4.3.amzn2
  fontpackages-filesystem.noarch 0:1.44-8.amzn2                        giflib.x86_64 0:4.1.6-9.amzn2.0.2
  java-17-amazon-corretto-headless.x86_64 1:17.0.5+8-1.amzn2.1         javapackages-tools.noarch 0:3.4.1-11.amzn2
  libICE.x86_64 0:1.0.9-9.amzn2.0.2                                    libSM.x86_64 0:1.2.2-2.amzn2.0.2
  libX11.x86_64 0:1.6.7-3.amzn2.0.2                                    libX11-common.noarch 0:1.6.7-3.amzn2.0.2
  libXau.x86_64 0:1.0.8-2.1.amzn2.0.2                                  libXext.x86_64 0:1.3.3-3.amzn2.0.2
  libXi.x86_64 0:1.7.9-1.amzn2.0.2                                     libXinerama.x86_64 0:1.1.3-2.1.amzn2.0.2
  libXrandr.x86_64 0:1.5.1-2.amzn2.0.3                                 libXrender.x86_64 0:0.9.10-1.amzn2.0.2
  libXt.x86_64 0:1.1.5-3.amzn2.0.2                                     libXtst.x86_64 0:1.2.3-1.amzn2.0.2
  libxcb.x86_64 0:1.12-1.amzn2.0.2                                     libxslt.x86_64 0:1.1.28-6.amzn2
  log4j-cve-2021-44228-hotpatch.noarch 0:1.3-7.amzn2                   python-javapackages.noarch 0:3.4.1-11.amzn2
  python-lxml.x86_64 0:3.2.1-4.amzn2.0.3

Complete!
[ec2-user@ip-172-30-0-209 ~]$
```

Додаємо в профіль aws в ідеї сервер порт 80

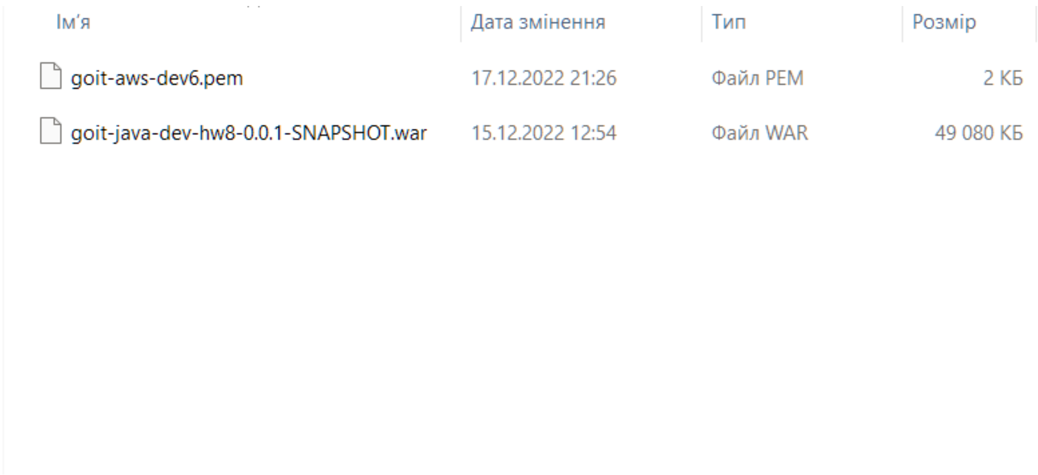

application-aws.properties
application-local.properties
application.properties
V1__init.sql
V3__add_UserRoles_and_default_admin.sql
dml.sql

```
spring.datasource.url=jdbc:postgresql://database-1.cgumemj0zjk3.ca-central-1.rds.amazonaws.com:5432/postgres
spring.datasource.username=postgres
spring.datasource.password=postgres
server.port=80
```

Виконуємо clean – install. Копіюємо war файл в папку з ключом для доступу до сервера



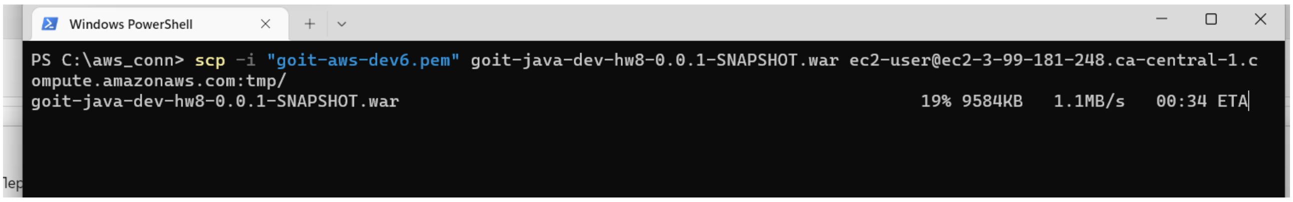
```
target
  classes
  generated-sources
  generated-test-sources
  goit-java-dev-hw8-0.0.1-SNAPSHOT
  maven-archiver
  maven-status
  surefire-reports
  test-classes
  goit-java-dev-hw8-0.0.1-SNAPSHOT.war
  goit-java-dev-hw8-0.0.1-SNAPSHOT.war.original
.gitignore
```



Ім'я	Дата змінення	Тип	Розмір
goit-aws-dev6.pem	17.12.2022 21:26	Файл PEM	2 КБ
goit-java-dev-hw8-0.0.1-SNAPSHOT.war	15.12.2022 12:54	Файл WAR	49 080 КБ

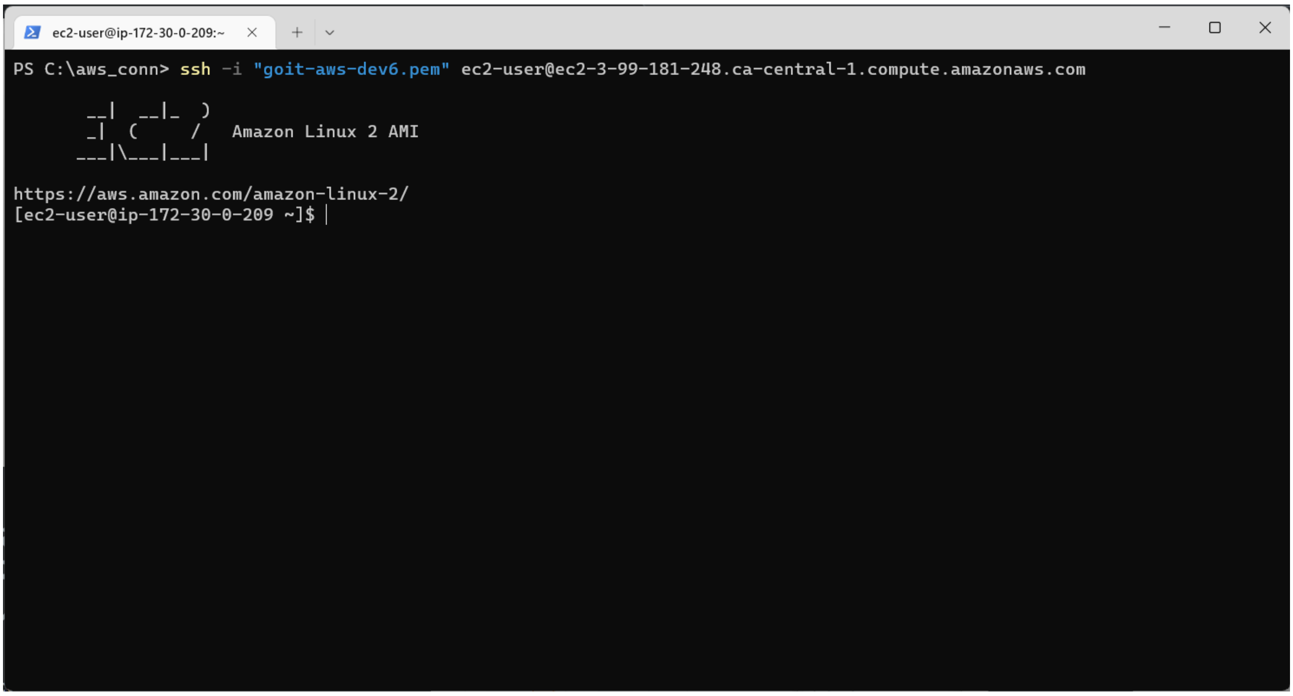
Відкриваємо тут термінал і вводимо команду для копіювання файлу на сервер

scp -i "goit-aws-dev6.pem" goit-java-dev-hw8-0.0.1-SNAPSHOT.war ec2-user@ec2-3-99-181-248.ca-central-1.compute.amazonaws.com:tmp/



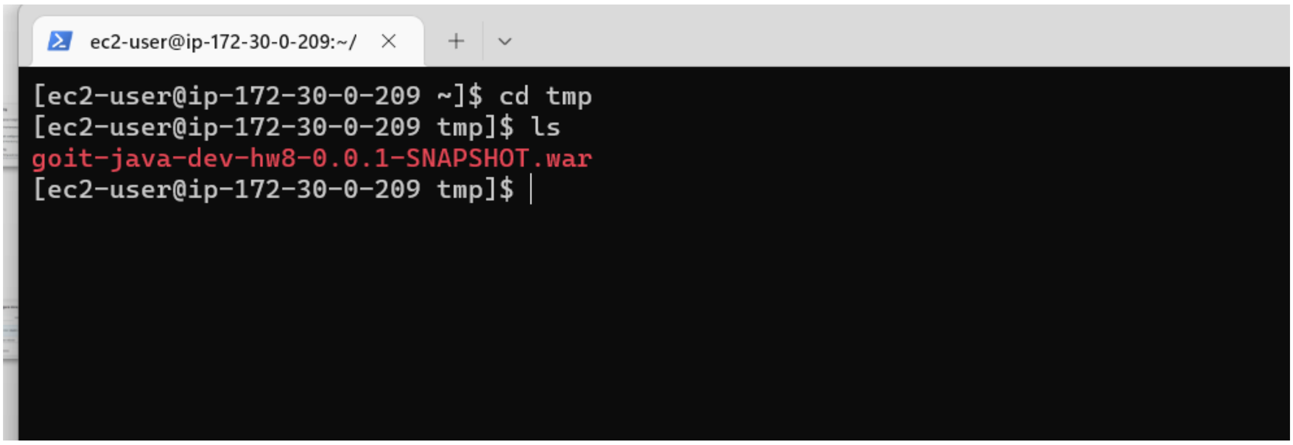
```
PS C:\aws_conn> scp -i "goit-aws-dev6.pem" goit-java-dev-hw8-0.0.1-SNAPSHOT.war ec2-user@ec2-3-99-181-248.ca-central-1.c
ompute.amazonaws.com:tmp/
goit-java-dev-hw8-0.0.1-SNAPSHOT.war                                               19% 9584KB   1.1MB/s   00:34 ETA
```

Потім підключаємося до сервера



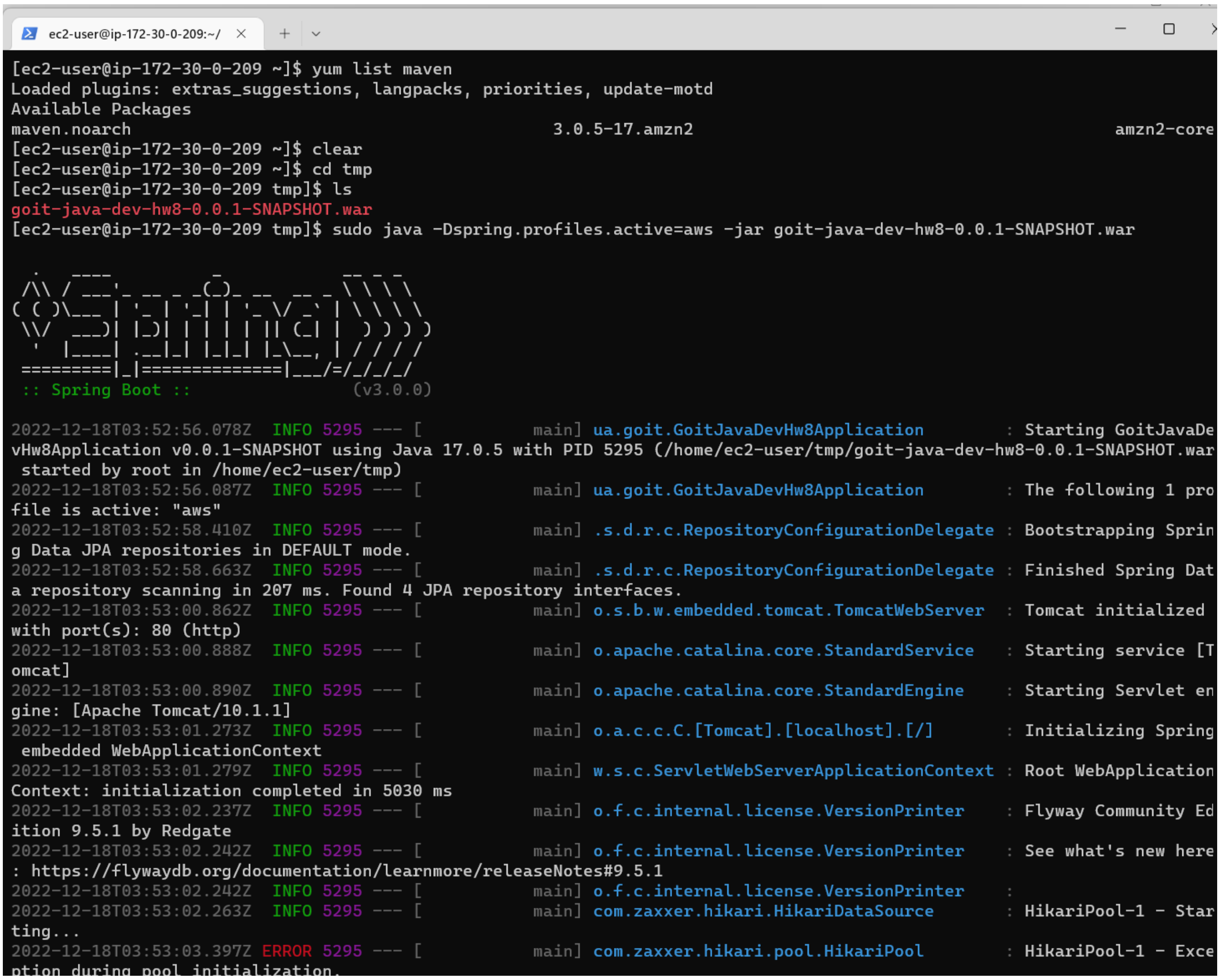
```
PS C:\aws_conn> ssh -i "goit-aws-dev6.pem" ec2-user@ec2-3-99-181-248.ca-central-1.compute.amazonaws.com

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-30-0-209 ~]$ 
```

Переходимо в папку tmp і перевіряємо що файл скопійовано



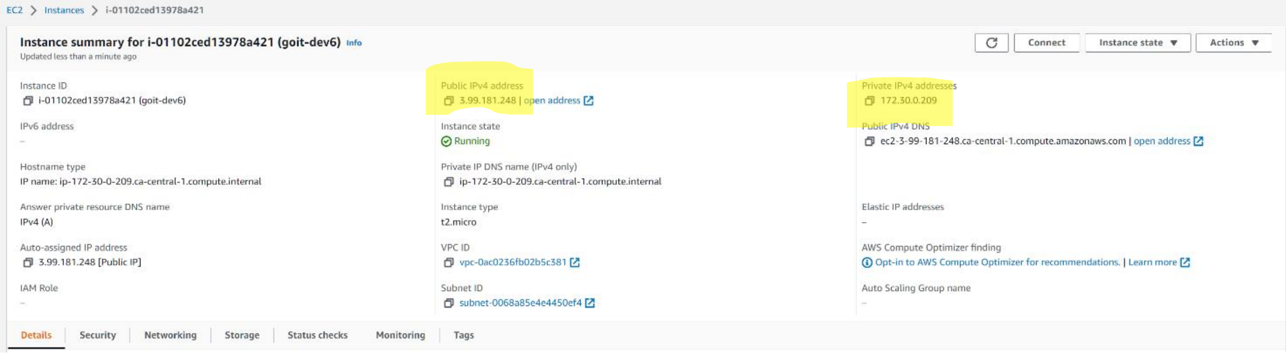
```
[ec2-user@ip-172-30-0-209 ~]$ cd tmp
[ec2-user@ip-172-30-0-209 tmp]$ ls
goit-java-dev-hw8-0.0.1-SNAPSHOT.war
[ec2-user@ip-172-30-0-209 tmp]$ 
```

Спробуємо виконати



```
[ec2-user@ip-172-30-0-209 ~]$ yum list maven
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Available Packages
maven.noarch                                         3.0.5-17.amzn2                                        amzn2-core
[ec2-user@ip-172-30-0-209 ~]$ clear
[ec2-user@ip-172-30-0-209 ~]$ cd tmp
[ec2-user@ip-172-30-0-209 tmp]$ ls
goit-java-dev-hw8-0.0.1-SNAPSHOT.war
[ec2-user@ip-172-30-0-209 tmp]$ sudo java -Dspring.profiles.active=aws -jar goit-java-dev-hw8-0.0.1-SNAPSHOT.war

  .   ____          _            __ _ _
 /\\ / ___'_ __ _ _(_)_ __  __ _ \ \ \ \
( ( )\___ | '_ | '_| | '_ \/ _` | \ \ \ \
 \\/  ___)| |_)| | | | | || (_| |  ) ) ) )
  '  |____| .__|_| |_|_| |_\__, | / / / /
 =========|_|==============|___/=/_/_/_/
 :: Spring Boot ::                (v3.0.0)

2022-12-18T03:52:56.078Z  INFO 5295 --- [           main] ua.goit.GoitJavaDevHw8Application        : Starting GoitJavaDe
vHw8Application v0.0.1-SNAPSHOT using Java 17.0.5 with PID 5295 (/home/ec2-user/tmp/goit-java-dev-hw8-0.0.1-SNAPSHOT.war
 started by root in /home/ec2-user/tmp)
2022-12-18T03:52:56.087Z  INFO 5295 --- [           main] ua.goit.GoitJavaDevHw8Application        : The following 1 pro
file is active: "aws"
2022-12-18T03:52:58.410Z  INFO 5295 --- [           main] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Sprin
g Data JPA repositories in DEFAULT mode.
2022-12-18T03:52:58.663Z  INFO 5295 --- [           main] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Dat
a repository scanning in 207 ms. Found 4 JPA repository interfaces.
2022-12-18T03:53:00.862Z  INFO 5295 --- [           main] o.s.b.w.embedded.tomcat.TomcatWebServer  : Tomcat initialized
with port(s): 80 (http)
2022-12-18T03:53:00.888Z  INFO 5295 --- [           main] o.apache.catalina.core.StandardService   : Starting service [T
omcat]
2022-12-18T03:53:00.890Z  INFO 5295 --- [           main] o.apache.catalina.core.StandardEngine    : Starting Servlet en
gine: [Apache Tomcat/10.1.1]
2022-12-18T03:53:01.273Z  INFO 5295 --- [           main] o.a.c.c.C.[Tomcat].[localhost].[/]       : Initializing Spring
 embedded WebApplicationContext
2022-12-18T03:53:01.279Z  INFO 5295 --- [           main] w.s.c.ServletWebServerApplicationContext : Root WebApplication
Context: initialization completed in 5030 ms
2022-12-18T03:53:02.237Z  INFO 5295 --- [           main] o.f.c.internal.license.VersionPrinter    : Flyway Community Ed
ition 9.5.1 by Redgate
2022-12-18T03:53:02.242Z  INFO 5295 --- [           main] o.f.c.internal.license.VersionPrinter    : See what's new here
: https://flywaydb.org/documentation/learnmore/releaseNotes#9.5.1
2022-12-18T03:53:02.242Z  INFO 5295 --- [           main] o.f.c.internal.license.VersionPrinter    :
2022-12-18T03:53:02.263Z  INFO 5295 --- [           main] com.zaxxer.hikari.HikariDataSource       : HikariPool-1 - Star
ting...
2022-12-18T03:53:03.397Z ERROR 5295 --- [           main] com.zaxxer.hikari.pool.HikariPool        : HikariPool-1 - Exce
ption during pool initialization.
```

Тут вибиває помилку підключення до бази даних. Щоб її усунути, треба дозволити доступ з ір адреси віртуального сервера до бази даних. Я додав дві адреси, приватну і публічну.



Instance summary for i-01102ced13978a421 (goit-dev6) Info
Updated less than a minute ago

Instance ID
i-01102ced13978a421 (goit-dev6)

Public IPv4 address
3.99.181.248 | open address

Private IPv4 addresses
172.30.0.209

IPv6 address
–

Instance state
Running

Public IPv4 DNS
ec2-3-99-181-248.ca-central-1.compute.amazonaws.com | open address

Hostname type
IP name: ip-172-30-0-209.ca-central-1.compute.internal

Private IP DNS name (IPv4 only)
ip-172-30-0-209.ca-central-1.compute.internal

Answer private resource DNS name
IPv4 (A)

Instance type
t2.micro

Elastic IP addresses
–

Auto-assigned IP address
3.99.181.248 [Public IP]

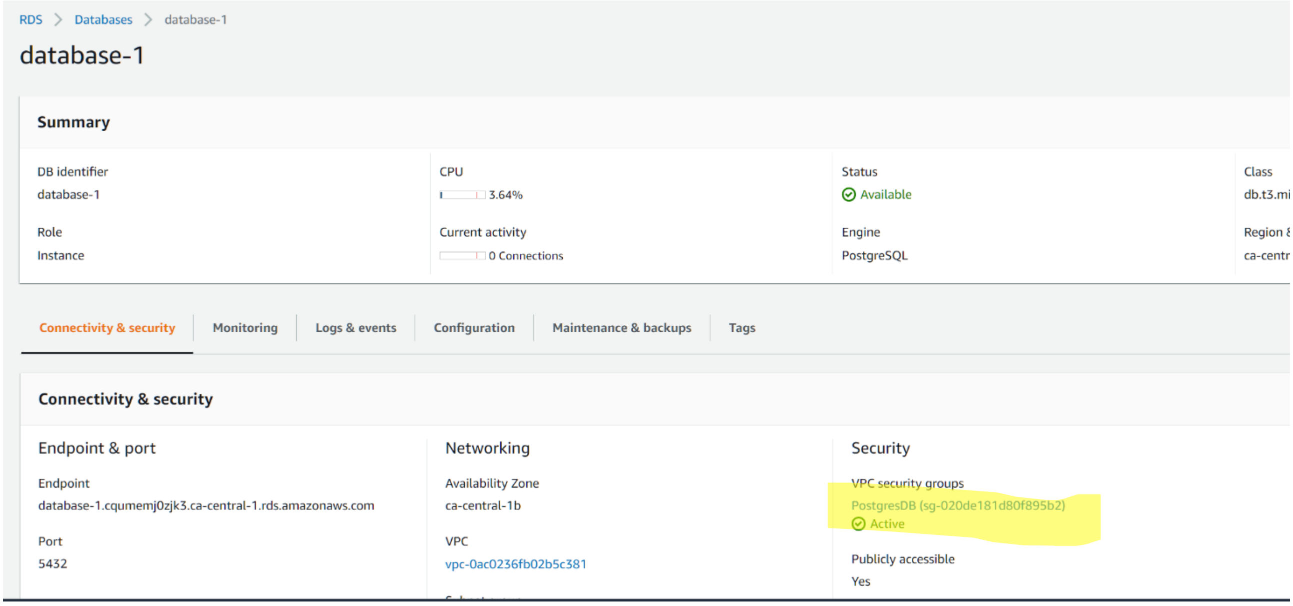
VPC ID
vpc-0ac0236fb02b5c381

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

IAM Role
–

Subnet ID
subnet-0068a85e4e4450ef4

Auto Scaling Group name
–



RDS > Databases > database-1

database-1

Summary

DB identifier	CPU	Status	Class
database-1	3.64%	Available	db.t3.mi
Role	Current activity	Engine	Region &
Instance	0 Connections	PostgreSQL	ca-centr

Connectivity & security

Endpoint & port

Endpoint
database-1.cqumemj0zjk3.ca-central-1.rds.amazonaws.com

Port
5432

Networking

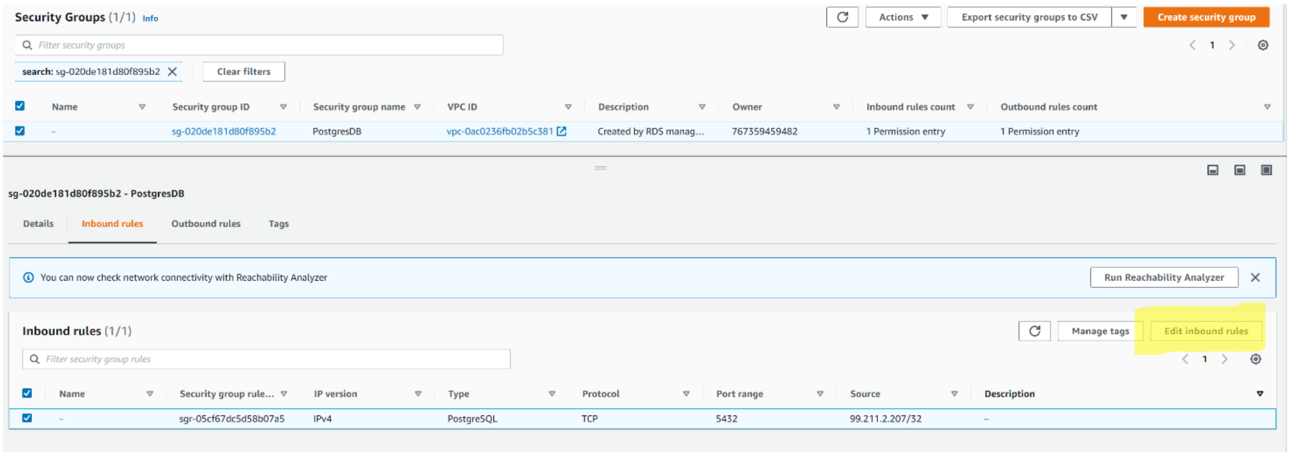
Availability Zone
ca-central-1b

VPC
vpc-0ac0236fb02b5c381

Security

VPC security groups
PostgresDB (sg-020de181d80f895b2)
Active

Publicly accessible
Yes



Security Groups (1/1) Info

search: sg-020de181d80f895b2

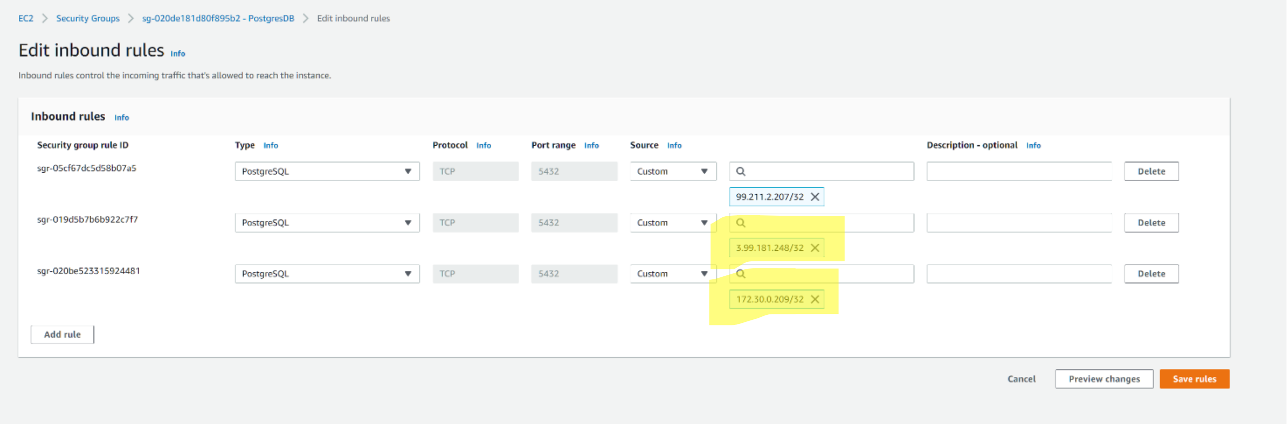
☑	Name	Security group ID	Security group name	VPC ID	Description	Owner	Inbound rules count	Outbound rules count
☑	–	sg-020de181d80f895b2	PostgresDB	vpc-0ac0236fb02b5c381	Created by RDS manag...	767359459482	1 Permission entry	1 Permission entry

sg-020de181d80f895b2 - PostgresDB

You can now check network connectivity with Reachability Analyzer

Inbound rules (1/1)

☑	Name	Security group rule...	IP version	Type	Protocol	Port range	Source	Description
☑	–	sgr-05cf67dc5d58b07a5	IPv4	PostgreSQL	TCP	5432	99.211.2.207/32	–



EC2 > Security Groups > sg-020de181d80f895b2 - PostgresDB > Edit inbound rules

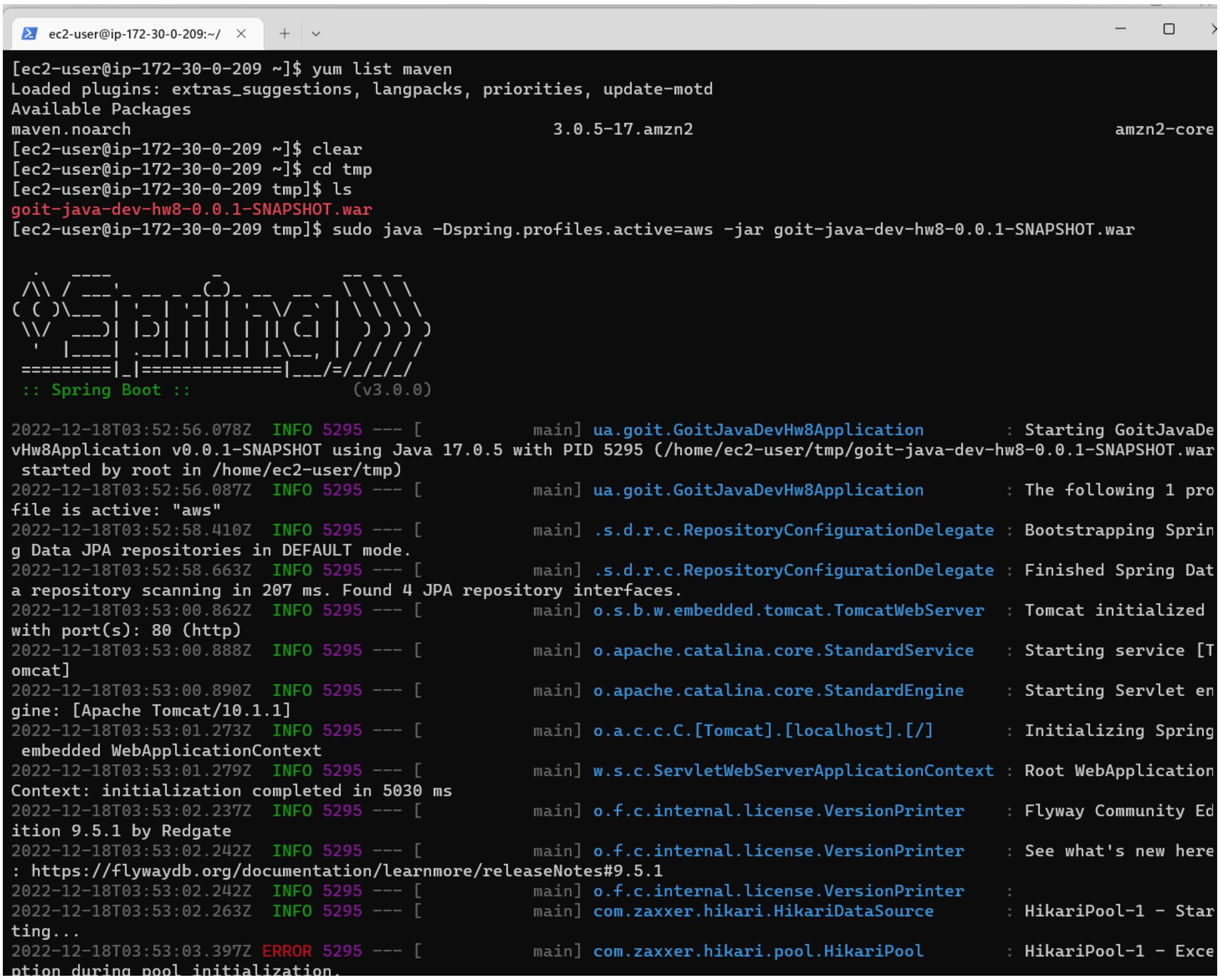
Edit inbound rules Info

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules Info

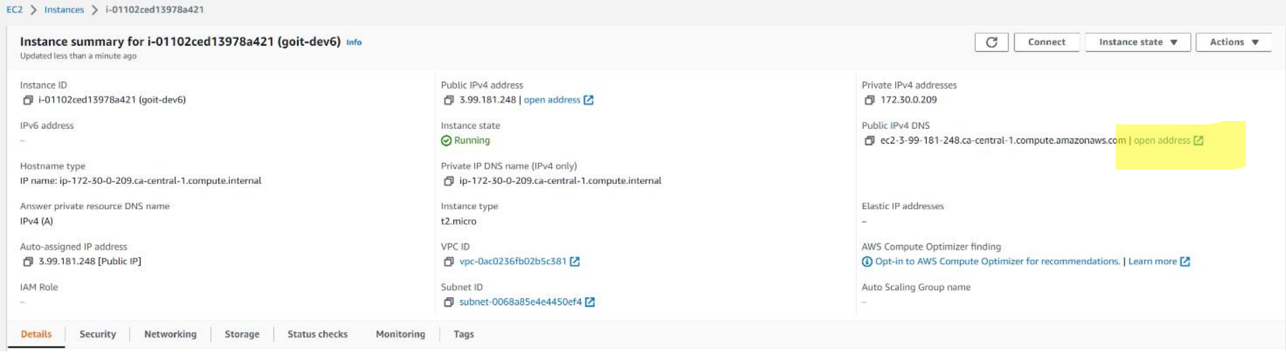
Security group rule ID	Type	Protocol	Port range	Source		Description - optional
sgr-05cf67dc5d58b07a5	PostgreSQL	TCP	5432	Custom	99.211.2.207/32	
sgr-019d5b7b6b922c7f7	PostgreSQL	TCP	5432	Custom	3.99.181.248/32	
sgr-020be523315924481	PostgreSQL	TCP	5432	Custom	172.30.0.209/32	

Через дві хвилини знову пробуємо запустити додаток на сервері. В мене зміни прмінилися не моментально, успішний запуск вдався за дві хвилини, хоча при видаленні адреси з дозволених доступ пропадав відразу.



```
[ec2-user@ip-172-30-0-209 ~]$ yum list maven
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Available Packages
maven.noarch                                  3.0.5-17.amzn2                                  amzn2-core
[ec2-user@ip-172-30-0-209 ~]$ clear
[ec2-user@ip-172-30-0-209 ~]$ cd tmp
[ec2-user@ip-172-30-0-209 tmp]$ ls
goit-java-dev-hw8-0.0.1-SNAPSHOT.war
[ec2-user@ip-172-30-0-209 tmp]$ sudo java -Dspring.profiles.active=aws -jar goit-java-dev-hw8-0.0.1-SNAPSHOT.war

  .   ____          _            __ _ _
 /\\ / ___'_ __ _ _(_)_ __  __ _ \ \ \ \
( ( )\___ | '_ | '_| | '_ \/ _` | \ \ \ \
 \\/  ___)| |_)| | | | | || (_| |  ) ) ) )
  '  |____| .__|_| |_|_| |_\__, | / / / /
 =========|_|==============|___/=/_/_/_/
 :: Spring Boot ::                (v3.0.0)

2022-12-18T03:52:56.078Z  INFO 5295 --- [           main] ua.goit.GoitJavaDevHw8Application        : Starting GoitJavaDe
vHw8Application v0.0.1-SNAPSHOT using Java 17.0.5 with PID 5295 (/home/ec2-user/tmp/goit-java-dev-hw8-0.0.1-SNAPSHOT.war
 started by root in /home/ec2-user/tmp)
2022-12-18T03:52:56.087Z  INFO 5295 --- [           main] ua.goit.GoitJavaDevHw8Application        : The following 1 pro
file is active: "aws"
2022-12-18T03:52:58.410Z  INFO 5295 --- [           main] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Sprin
g Data JPA repositories in DEFAULT mode.
2022-12-18T03:52:58.663Z  INFO 5295 --- [           main] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Dat
a repository scanning in 207 ms. Found 4 JPA repository interfaces.
2022-12-18T03:53:00.862Z  INFO 5295 --- [           main] o.s.b.w.embedded.tomcat.TomcatWebServer  : Tomcat initialized
with port(s): 80 (http)
2022-12-18T03:53:00.888Z  INFO 5295 --- [           main] o.apache.catalina.core.StandardService   : Starting service [T
omcat]
2022-12-18T03:53:00.890Z  INFO 5295 --- [           main] o.apache.catalina.core.StandardEngine    : Starting Servlet en
gine: [Apache Tomcat/10.1.1]
2022-12-18T03:53:01.273Z  INFO 5295 --- [           main] o.a.c.c.C.[Tomcat].[localhost].[/]       : Initializing Spring
 embedded WebApplicationContext
2022-12-18T03:53:01.279Z  INFO 5295 --- [           main] w.s.c.ServletWebServerApplicationContext : Root WebApplication
Context: initialization completed in 5030 ms
2022-12-18T03:53:02.237Z  INFO 5295 --- [           main] o.f.c.internal.license.VersionPrinter    : Flyway Community Ed
ition 9.5.1 by Redgate
2022-12-18T03:53:02.242Z  INFO 5295 --- [           main] o.f.c.internal.license.VersionPrinter    : See what's new here
: https://flywaydb.org/documentation/learnmore/releaseNotes#9.5.1
2022-12-18T03:53:02.242Z  INFO 5295 --- [           main] o.f.c.internal.license.VersionPrinter    :
2022-12-18T03:53:02.263Z  INFO 5295 --- [           main] com.zaxxer.hikari.HikariDataSource       : HikariPool-1 - Star
ting...
2022-12-18T03:53:03.397Z ERROR 5295 --- [           main] com.zaxxer.hikari.pool.HikariPool        : HikariPool-1 - Exce
ption during pool initialization.
```

Переходимо на точку доступу до нашого сервера в браузері і змінюємо протокол з httts -> http



Instance summary for i-01102ced13978a421 (goit-dev6)

Updated less than a minute ago

Instance ID: i-01102ced13978a421 (goit-dev6)

IPv6 address: –

Hostname type: IP name: ip-172-30-0-209.ca-central-1.compute.internal

Answer private resource DNS name: IPv4 (A)

Auto-assigned IP address: 3.99.181.248 [Public IP]

IAM Role: –

Public IPv4 address: 3.99.181.248 | open address

Instance state: Running

Private IP DNS name (IPv4 only): ip-172-30-0-209.ca-central-1.compute.internal

Instance type: t2.micro

VPC ID: vpc-0ac0236fb02b5c381

Subnet ID: subnet-0068a85e4e4450ef4

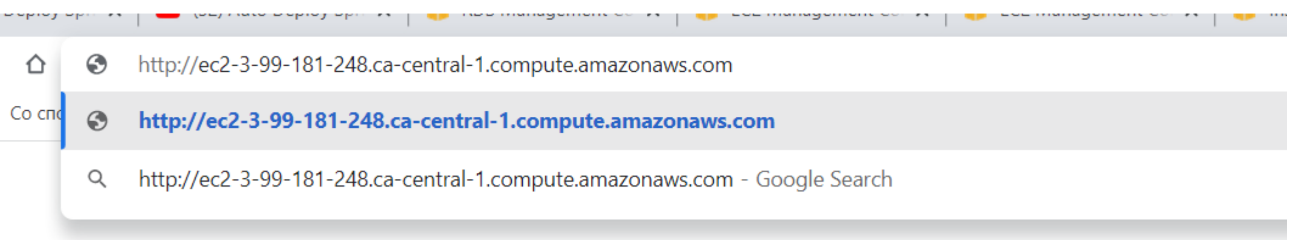
Private IPv4 addresses: 172.30.0.209

Public IPv4 DNS: ec2-3-99-181-248.ca-central-1.compute.amazonaws.com | open address

Elastic IP addresses: –

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

Auto Scaling Group name: –

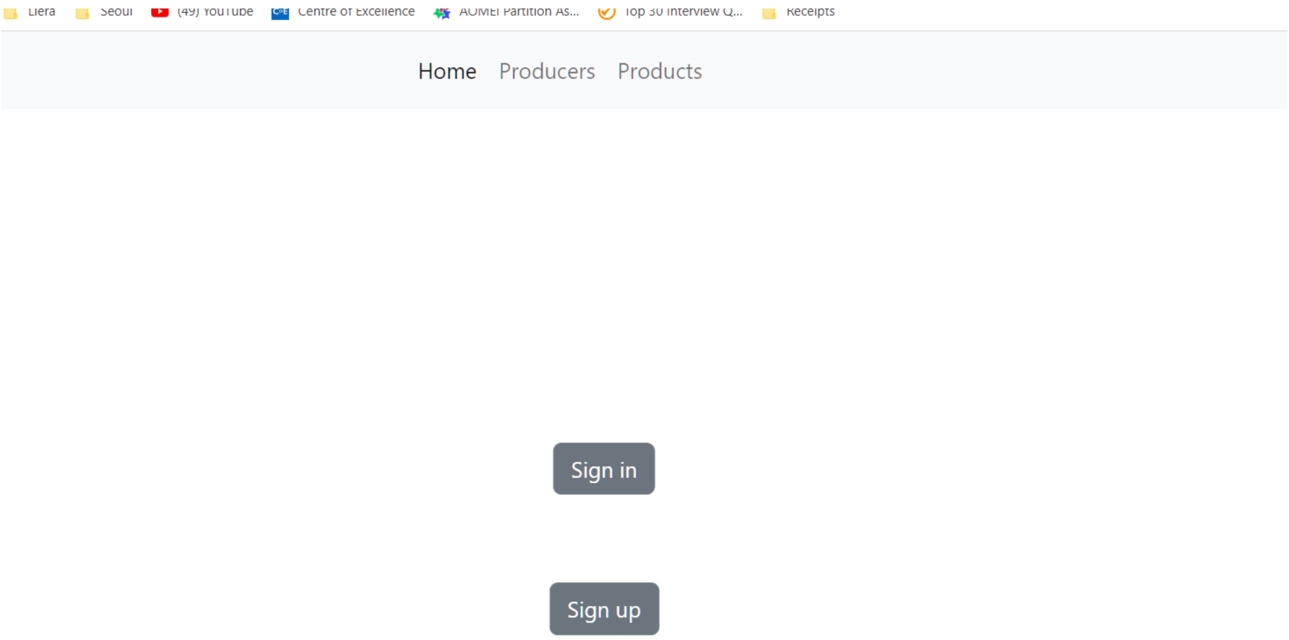


http://ec2-3-99-181-248.ca-central-1.compute.amazonaws.com

http://ec2-3-99-181-248.ca-central-1.compute.amazonaws.com

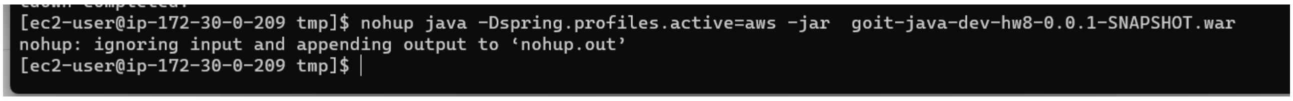
http://ec2-3-99-181-248.ca-central-1.compute.amazonaws.com - Google Search

Перевіряємо що додаток доступний і працює.



Щоб при закритті консолі програма не закривалася, запускаємо її в фоновому режимі командою

sudo nohup java -Dspring.profiles.active=aws -jar goit-java-dev-hw8-0.0.1-SNAPSHOT.war



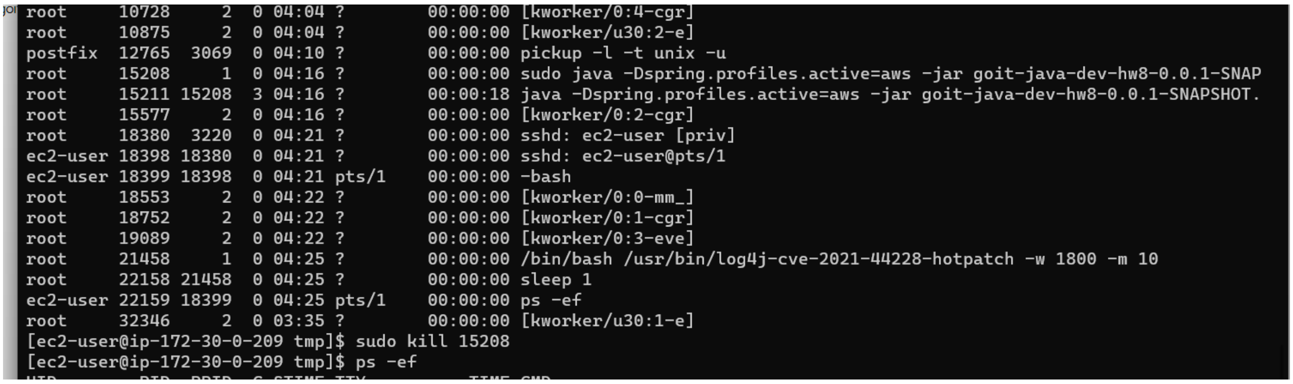
```
[ec2-user@ip-172-30-0-209 tmp]$ nohup java -Dspring.profiles.active=aws -jar  goit-java-dev-hw8-0.0.1-SNAPSHOT.war
nohup: ignoring input and appending output to ‘nohup.out’
[ec2-user@ip-172-30-0-209 tmp]$
```

При перепідключенні до сервера при необхідності вимкнути фонову задачу виводимо список всіх задач командою

ps -ef

Дивимося на PID нашого процесу і вбиваємо його командою

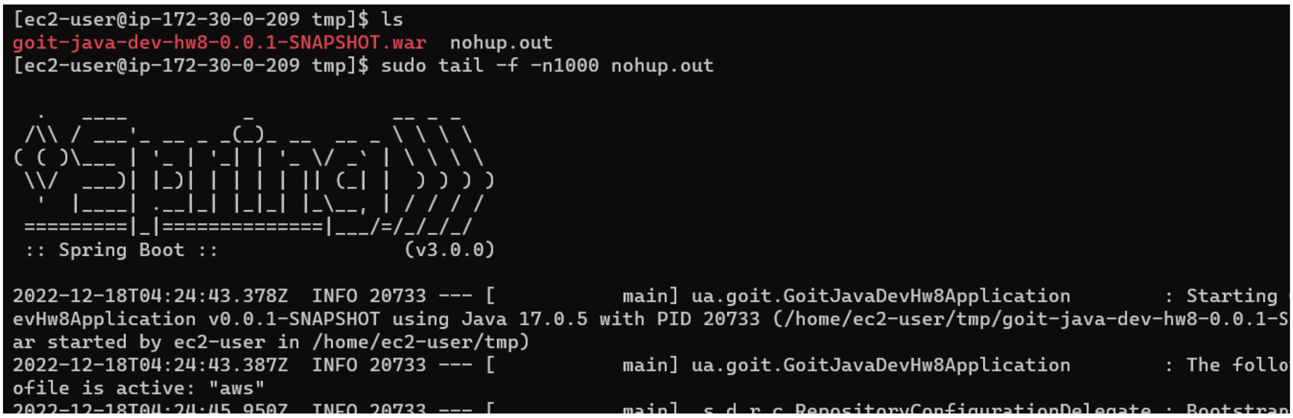
sudo kill PID



```
root     10728     2  0 04:04 ?        00:00:00 [kworker/0:4-cgr]
root     10875     2  0 04:04 ?        00:00:00 [kworker/u30:2-e]
postfix  12765  3069  0 04:10 ?        00:00:00 pickup -l -t unix -u
root     15208     1  0 04:16 ?        00:00:00 sudo java -Dspring.profiles.active=aws -jar goit-java-dev-hw8-0.0.1-SNAP
root     15211 15208  3 04:16 ?        00:00:18 java -Dspring.profiles.active=aws -jar goit-java-dev-hw8-0.0.1-SNAPSHOT.
root     15577     2  0 04:16 ?        00:00:00 [kworker/0:2-cgr]
root     18380  3220  0 04:21 ?        00:00:00 sshd: ec2-user [priv]
ec2-user 18398 18380  0 04:21 ?        00:00:00 sshd: ec2-user@pts/1
ec2-user 18399 18398  0 04:21 pts/1    00:00:00 -bash
root     18553     2  0 04:22 ?        00:00:00 [kworker/0:0-mm_]
root     18752     2  0 04:22 ?        00:00:00 [kworker/0:1-cgr]
root     19089     2  0 04:22 ?        00:00:00 [kworker/0:3-eve]
root     21458     1  0 04:25 ?        00:00:00 /bin/bash /usr/bin/log4j-cve-2021-44228-hotpatch -w 1800 -m 10
root     22158 21458  0 04:25 ?        00:00:00 sleep 1
ec2-user 22159 18399  0 04:25 pts/1    00:00:00 ps -ef
root     32346     2  0 03:35 ?        00:00:00 [kworker/u30:1-e]
[ec2-user@ip-172-30-0-209 tmp]$ sudo kill 15208
[ec2-user@ip-172-30-0-209 tmp]$ ps -ef
UID        PID  PPID  C STIME TTY          TIME CMD
```

При потребі подивитися логи фонового процесу в папці tmp виконуємо команду

sudo tail -f -n1000 nohup.out



```
[ec2-user@ip-172-30-0-209 tmp]$ ls
goit-java-dev-hw8-0.0.1-SNAPSHOT.war  nohup.out
[ec2-user@ip-172-30-0-209 tmp]$ sudo tail -f -n1000 nohup.out

  .   ____          _            __ _ _
 /\\ / ___'_ __ _ _(_)_ __  __ _ \ \ \ \
( ( )\___ | '_ | '_| | '_ \/ _` | \ \ \ \
 \\/  ___)| |_)| | | | | || (_| |  ) ) ) )
  '  |____| .__|_| |_|_| |_\__, | / / / /
 =========|_|==============|___/=/_/_/_/
 :: Spring Boot ::                (v3.0.0)

2022-12-18T04:24:43.378Z  INFO 20733 --- [           main] ua.goit.GoitJavaDevHw8Application        : Starting
evHw8Application v0.0.1-SNAPSHOT using Java 17.0.5 with PID 20733 (/home/ec2-user/tmp/goit-java-dev-hw8-0.0.1-S
ar started by ec2-user in /home/ec2-user/tmp)
2022-12-18T04:24:43.387Z  INFO 20733 --- [           main] ua.goit.GoitJavaDevHw8Application        : The follo
ofile is active: "aws"
2022-12-18T04:24:45.950Z  INFO 20733 --- [           main] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrap
```

Вийти з перегляду можна натиснувши cntr + c

Наступним кроком буде налаштування автодеплою по цьому відео

https://youtu.be/1-CKqngg6GY