

JAAS

SECCION 74 :::

----- CLASE 585 -----



JAAS

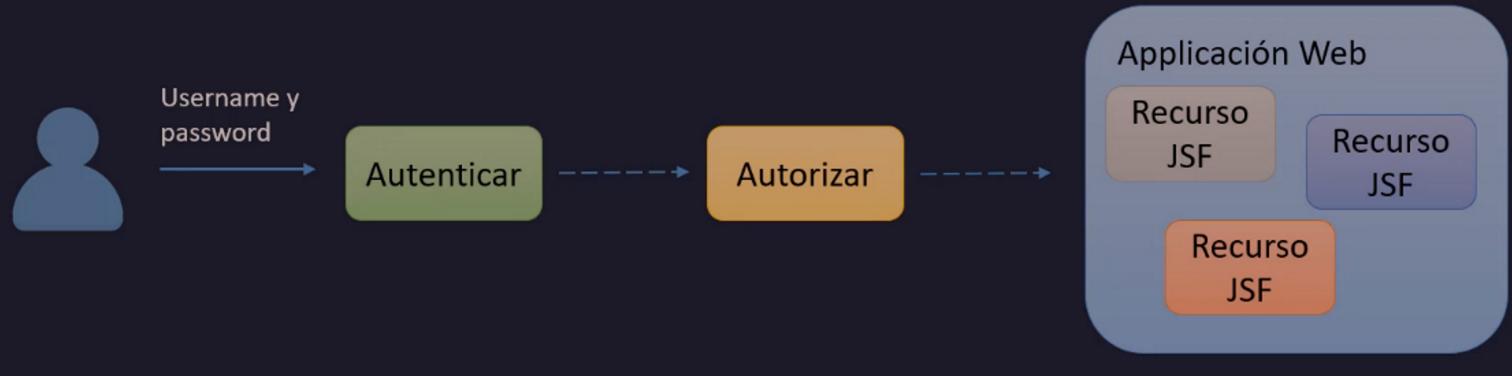
Es un API de autenticación o login de usuarios basada en JAAS (Java Authentication and Authorization Service)

Permite a los usuarios autenticarse en base a cualquier proveedor de seguridad por ejemplo LDAP, Sistema de archivos y Base de datos relacional.

A Venn diagram with three overlapping circles. The top circle is gray and labeled "Autenticación". The bottom-left circle is blue and labeled "Autorización". The bottom-right circle is also blue and labeled "Identity Management". The overlapping areas between all three circles are shaded in a darker shade of their respective colors, representing the intersection of the three services.

Autenticación y Autorización

- En la fase de Autenticación el usuario envía su username y su password y el servidor valida contra algún tipo de datasource si el usuario es válido o no.
- Una vez que el usuario ha sido validado pasamos la segunda fase que es la de Autorización en la que se comprueba que el usuario tiene permisos para acceder a estos recursos.



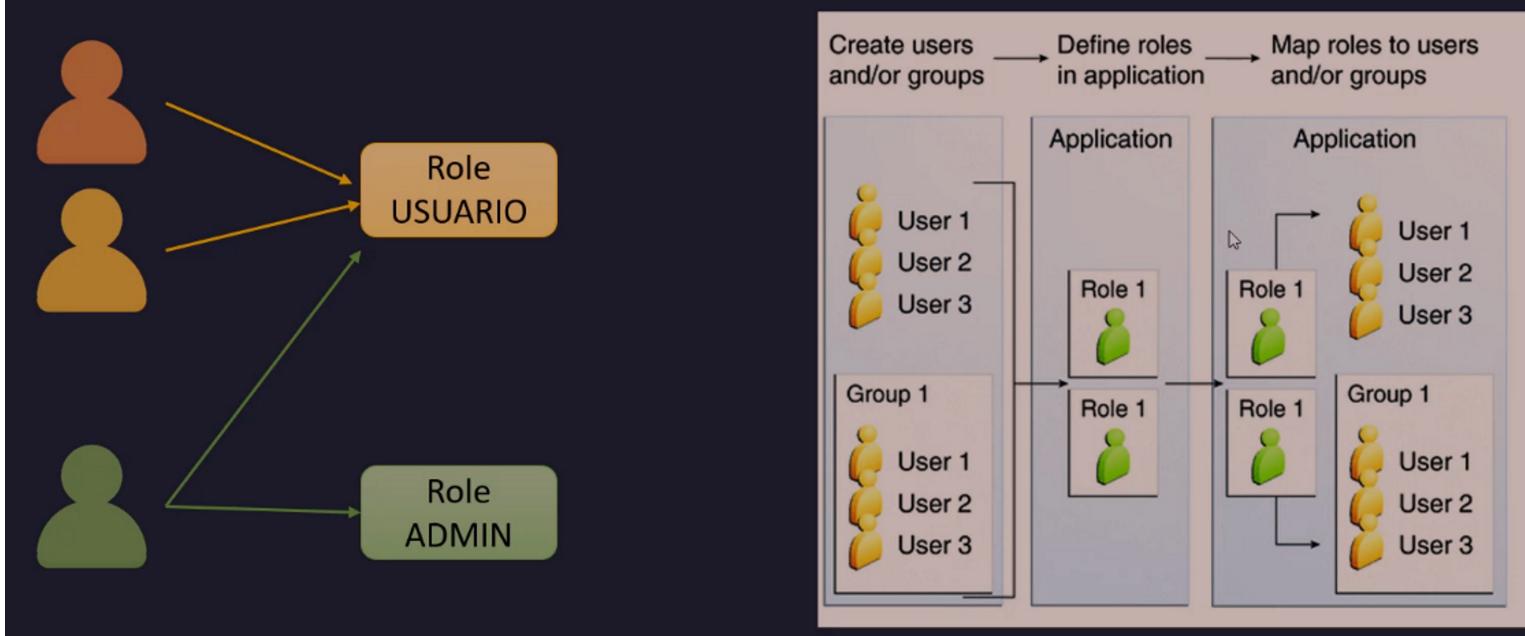
Identity Management

- Permite administrar a los usuarios, grupos y roles de nuestra aplicación
- Provee algunos métodos necesarios para crear, modificar, eliminar usuarios, grupos y roles, modificar password, activar o desactivar cuentas de usuarios

¿Qué es un Role?

- Un rol es un grupo o tipo de usuario que se le otorgan ciertos privilegios para llevar a cabo una o varias acciones dentro de una aplicación
- Son construcciones simples, que consta de un nombre como "admin", "usuario", "cliente", etc
- Pueden concederse ya sea a los usuarios y en algunos casos a grupos de usuarios
- Se utilizan para crear grupos lógicos de usuarios para la asignación de privilegios en la aplicación

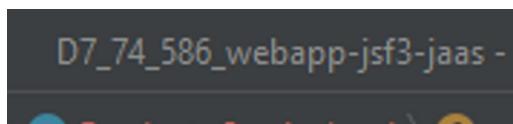
Role



----- CLASE 586 -----

586. Implementando seguridad JAAS en aplicacion web empresarial (EJB y JSF3)

PROYECTO



EL POM :

```
<?xml version="1.0" encoding="UTF-8"?>
<project xmlns="http://maven.apache.org/POM/4.0.0"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
<modelVersion>4.0.0</modelVersion>

<groupId>org.aguzman.webapp.jsf3.primefaces.jaas</groupId>
<artifactId>webapp-jsf3-jaas</artifactId>
<version>1</version>

<packaging>war</packaging>
<properties>
    <maven.compiler.source>17</maven.compiler.source>
    <maven.compiler.target>17</maven.compiler.target>
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
    <project.reporting.outputEncoding>UTF-8</project.reporting.outputEncoding>
</properties>
<dependencies>
    <dependency>
        <groupId>jakarta.platform</groupId>
        <artifactId>jakarta.jakartaee-api</artifactId>
        <version>9.0.0</version>
        <scope>provided</scope>
    </dependency>
    <dependency>
        <groupId>org.primefaces</groupId>
        <artifactId>primefaces</artifactId>
        <version>10.0.0</version>
        <classifier>jakarta</classifier>
    </dependency>
    <dependency>
        <groupId>org.webjars.npm</groupId>
        <artifactId>primeflex</artifactId>
        <version>2.0.0</version>
    </dependency>
</dependencies>
<build>
    <finalName>${project.artifactId}</finalName>
    <plugins>
        <plugin>
            <artifactId>maven-compiler-plugin</artifactId>
            <version>3.8.1</version>
        </plugin>
        <plugin>
            <groupId>org.wildfly.plugins</groupId>
            <artifactId>wildfly-maven-plugin</artifactId>
            <version>2.1.0.Final</version>
        </plugin>
        <plugin>
            <artifactId>maven-war-plugin</artifactId>
            <version>3.2.3</version>
            <configuration>
                <failOnMissingWebXml>false</failOnMissingWebXml>
            </configuration>
        </plugin>
    </plugins>
</build>
</project>
```

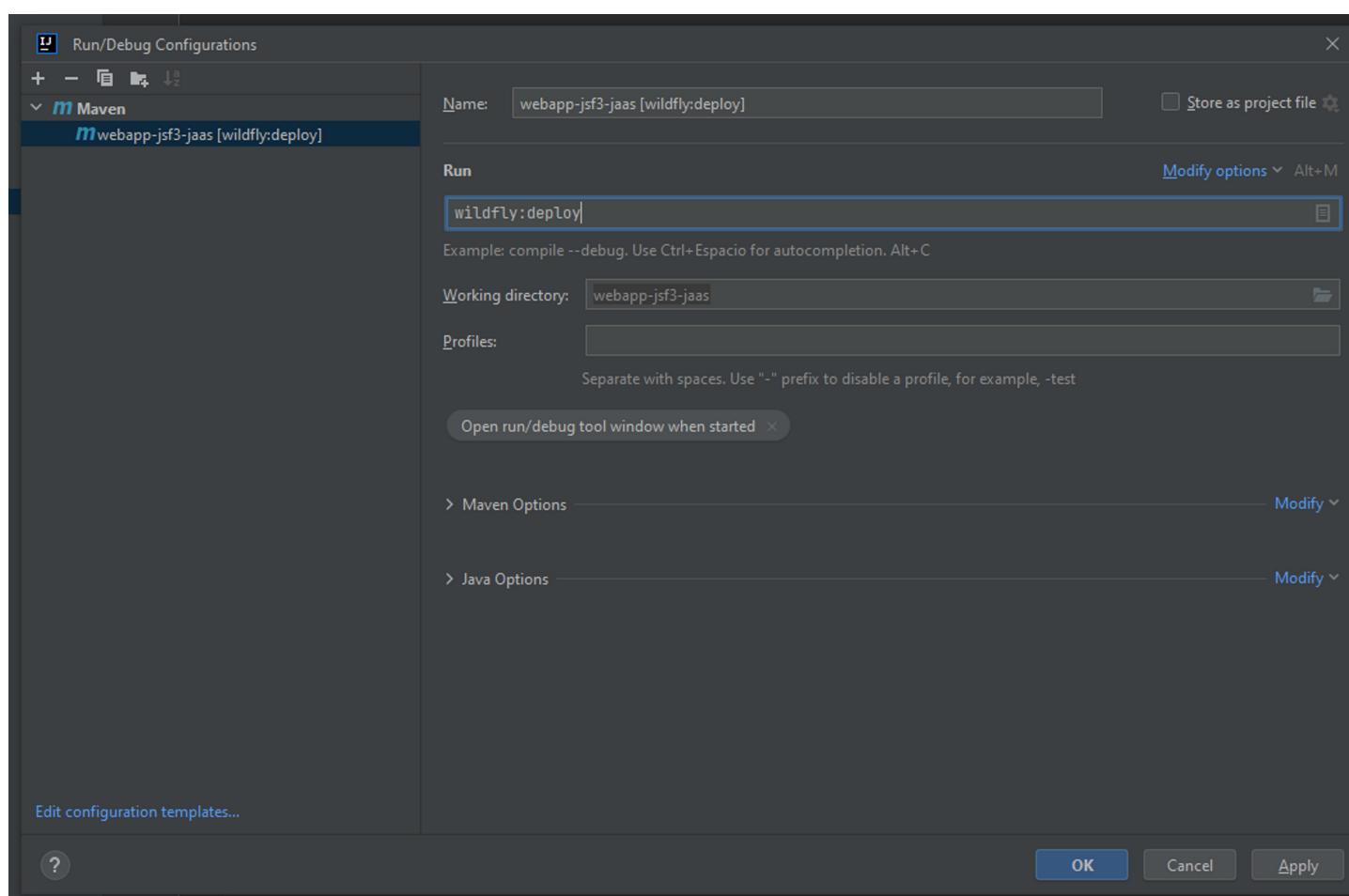
APLICA LOS ROLES EN LA CLASE SERVICE:

File: ProductoServiceImpl.java

```

16 //586
17 //1 - DECLARA ROLES.
18 //2 - SE DEJA PUBLICO.
19 //3 - SE DEJA PARA USER Y ADMIN.
20
21 @Stateless
22 @DeclareRoles({"USER", "ADMIN"})      //1
23 public class ProductoServiceImpl implements ProductoService {
24
25     @Inject
26     private ProductoRepository repository;
27
28     @Inject
29     private CrudRepository<Categoria> categoriaRepository;
30
31     @Override
32     @PermitAll      //2
33     public List<Producto> listar() { return repository.listar(); }
34
35     @RolesAllowed({"USER", "ADMIN"})    //3
36     @Override
37     public Optional<Producto> porId(Long id) { return Optional.ofNullable(repository.porId(id)); }
38
39     @RolesAllowed({"ADMIN"})
40     @Override
41     public void guardar(Producto producto) { repository.guardar(producto); }
42
43     @RolesAllowed({"ADMIN"})
44     @Override
45     public void eliminar(Long id) { repository.eliminar(id); }
46
47     @RolesAllowed({"USER", "ADMIN"})
48     @Override
49     public List<Categoria> listarCategorias() { return categoriaRepository.listar(); }
50
51     @Override
52     @RolesAllowed({"USER", "ADMIN"})
53     public Optional<Categoria> porIdCategoria(Long id) { return Optional.ofNullable(categoriaRepository.porId(id)); }
54
55     @Override
56     @RolesAllowed({"USER", "ADMIN"})
57     public List<Producto> buscarPorNombre(String nombre) { return repository.buscarPorNombre(nombre); }
58
59 }

```



LEVANTA WILDFLY:

```

PS C:\developjava\wildfly-preview-26.1.3.Final\bin> cd C:\developjava\wildfly-preview-26.1.3.Final\bin
PS C:\developjava\wildfly-preview-26.1.3.Final\bin> .\standalone.bat

```

```

axel
12345

```

CONFIGURA LOS USUARIOS:

```
SE CREA USUARIO CON ROLE USER:
```

```
.\add-user.bat
```

```

PS C:\Users\Fanta\Documents\5.-JAVA_MASTER_JAKARTA\07_74_586_webapp-jsf3-jaas> cd C:\developjava\wildfly-preview-26.1.3.Final\bin
PS C:\developjava\wildfly-preview-26.1.3.Final\bin> .\add-user.bat

What type of user do you wish to add?
a) Management User (mgmt-users.properties)
b) Application User (application-users.properties)
(a):

```

- (a) ESTE ES UN USUARIO PARA ADMINISTRAR LA CONSOLA DE WILDFLY.
(b) ESTE ES UN USUARIO PARA USUARIOS DE LA APLICACIÓN

ELIGE (B)

```
PS C:\Users\Fanta\Documents\5.-JAVA_MASTER_JAKARTA\07_74_586_webapp-jsf3-jaas> cd C:\developjava\wildfly-preview-26.1.3.Final\bin
PS C:\developjava\wildfly-preview-26.1.3.Final\bin> .\add-user.bat

What type of user do you wish to add?
a) Management User (mgmt-users.properties)
b) Application User (application-users.properties)
(a): b

Enter the details of the new user to add.
Using realm 'ApplicationRealm' as discovered from the existing property files.
Username : axel
Password recommendations are listed below. To modify these restrictions edit the add-user.properties configuration file.
- The password should be different from the username
- The password should not be one of the following restricted values {root, admin, administrator}
- The password should contain at least 8 characters, 1 alphabetic character(s), 1 digit(s), 1 non-alphanumeric symbol(s)
Password : .
WFLYDM0099: Password should have at least 8 characters!
Are you sure you want to use the password entered yes/no? y
Re-enter Password :
What groups do you want this user to belong to? (Please enter a comma separated list, or leave blank for none)[ ]: USER
About to add user 'axel' for realm 'ApplicationRealm'
Is this correct yes/no? yes
Added user 'axel' to file 'C:\developjava\wildfly-preview-26.1.3.Final\standalone\configuration\application-users.properties'
Added user 'axel' to file 'C:\developjava\wildfly-preview-26.1.3.Final\domain\configuration\application-users.properties'
Added user 'axel' with groups USER to file 'C:\developjava\wildfly-preview-26.1.3.Final\standalone\configuration\application-roles.properties'
Added user 'axel' with groups USER to file 'C:\developjava\wildfly-preview-26.1.3.Final\domain\configuration\application-roles.properties'
Is this new user going to be used for one AS process to connect to another AS process?
e.g. for a slave host controller connecting to the master or for a Remoting connection for server to server Jakarta Enterprise Beans calls.
yes/no? no
Presione una tecla para continuar . . .
```

Username : axel
Password : 12345
Role : user

SE HABILITA AL USUARIO ADMIN:

EL USUARIO ADMIN YA ESTABA CREADO, POR LO TANTO SOLO SE CONFIGURA Y HABILITA :

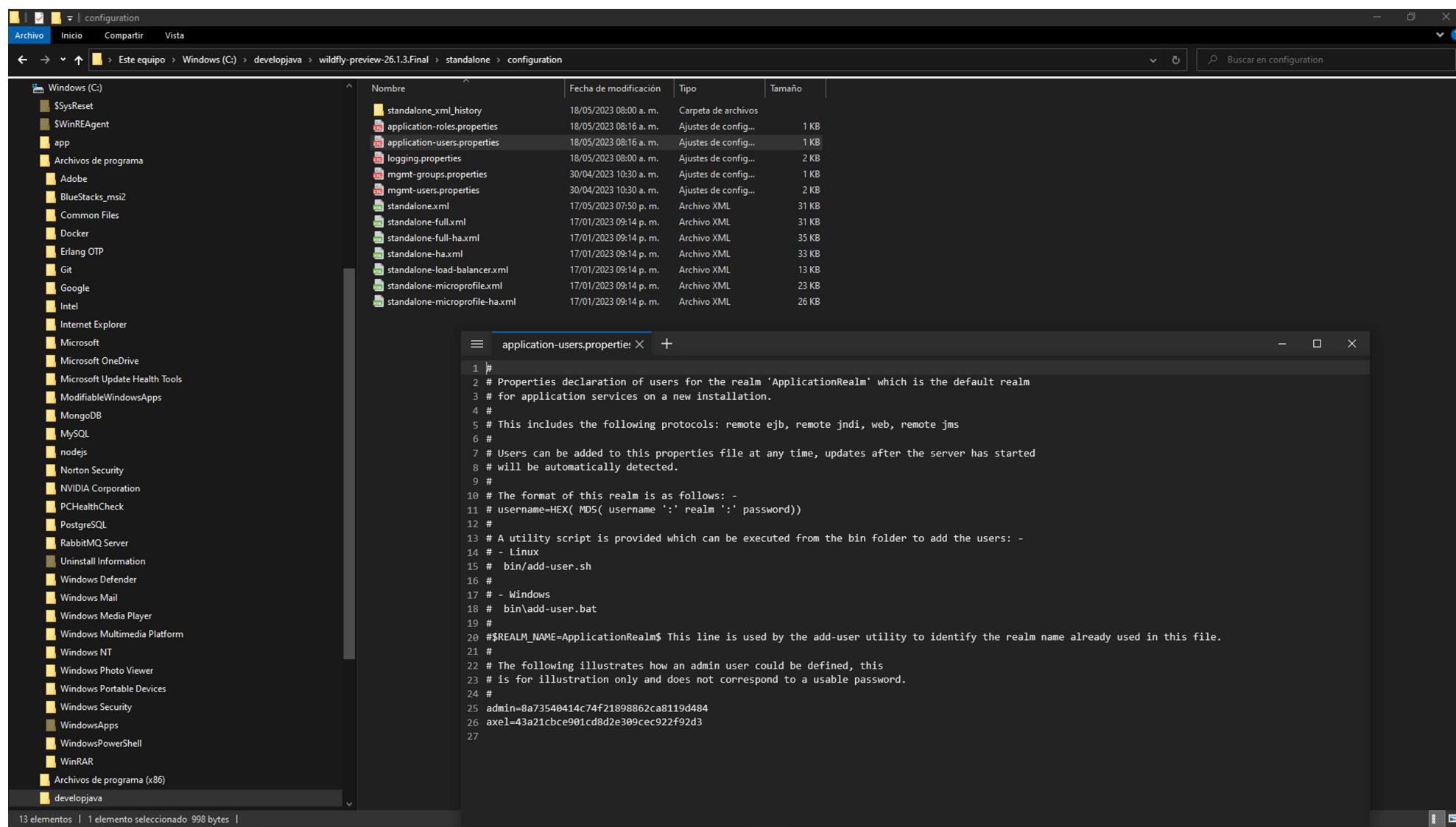
```
PS C:\developjava\wildfly-preview-26.1.3.Final\bin> .\add-user.bat

What type of user do you wish to add?
a) Management User (mgmt-users.properties)
b) Application User (application-users.properties)
(a): b

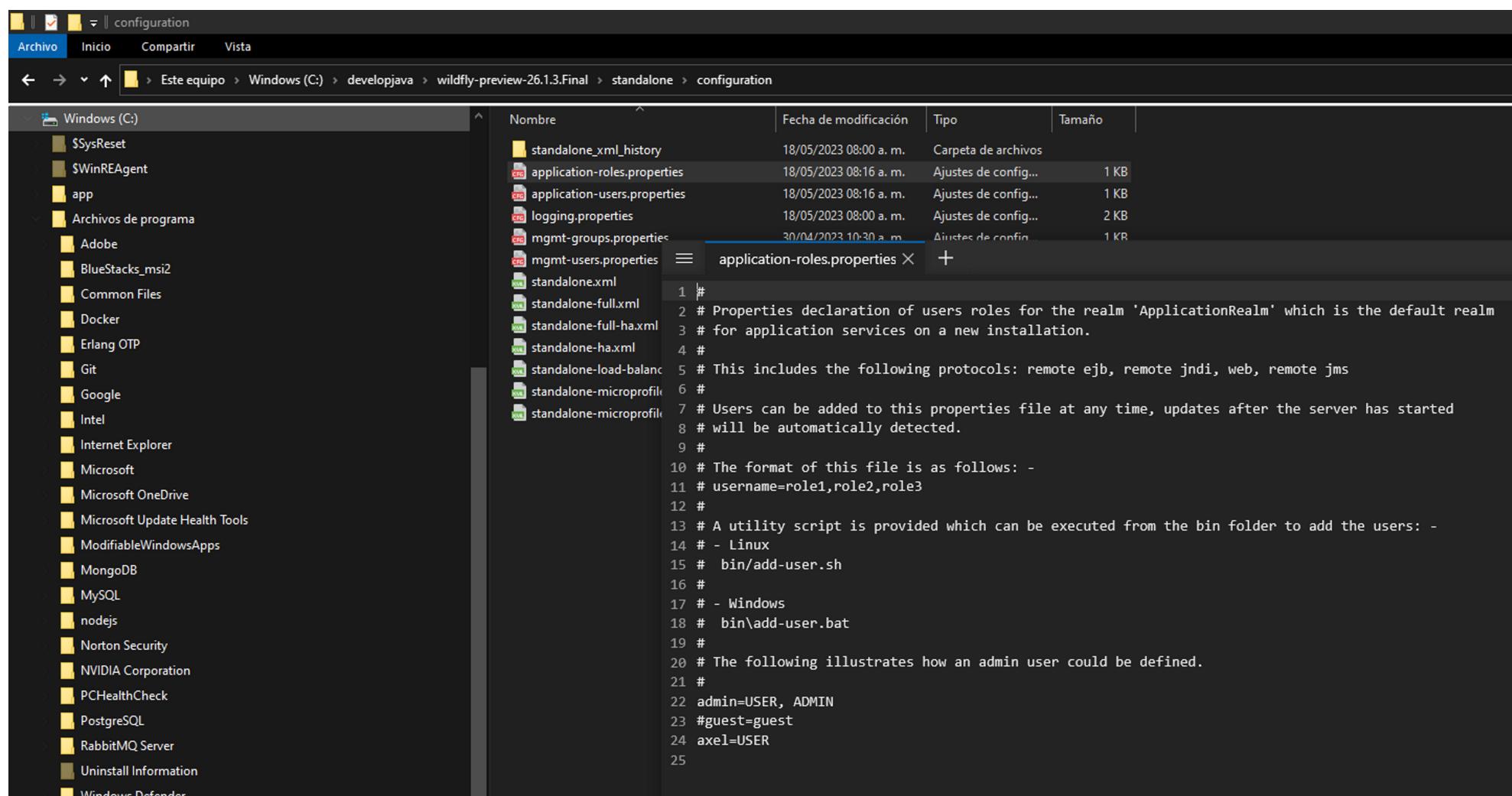
Enter the details of the new user to add.
Using realm 'ApplicationRealm' as discovered from the existing property files.
Username : admin
User 'admin' already exists and is disabled, would you like to...
a) Update the existing user password and roles
b) Enable the existing user
c) Type a new username
(a): a
Password recommendations are listed below. To modify these restrictions edit the add-user.properties configuration file.
- The password should be different from the username
- The password should not be one of the following restricted values {root, admin, administrator}
- The password should contain at least 8 characters, 1 alphabetic character(s), 1 digit(s), 1 non-alphanumeric symbol(s)
Password : .
WFLYDM0099: Password should have at least 8 characters!
Are you sure you want to use the password entered yes/no? yes
Re-enter Password :
What groups do you want this user to belong to? (Please enter a comma separated list, or leave blank for none)[ ]: USER, ADMIN
Updated user 'admin' to file 'C:\developjava\wildfly-preview-26.1.3.Final\standalone\configuration\application-users.properties'
Updated user 'admin' to file 'C:\developjava\wildfly-preview-26.1.3.Final\domain\configuration\application-users.properties'
Updated user 'admin' with groups USER, ADMIN to file 'C:\developjava\wildfly-preview-26.1.3.Final\standalone\configuration\application-roles.properties'
Updated user 'admin' with groups USER, ADMIN to file 'C:\developjava\wildfly-preview-26.1.3.Final\domain\configuration\application-roles.properties'
Is this new user going to be used for one AS process to connect to another AS process?
e.g. for a slave host controller connecting to the master or for a Remoting connection for server to server Jakarta Enterprise Beans calls.
yes/no? no
Presione una tecla para continuar . . .
```

USERNAME : admin
PASSWORD : 12345

VERIFICA LOS USUARIOS :

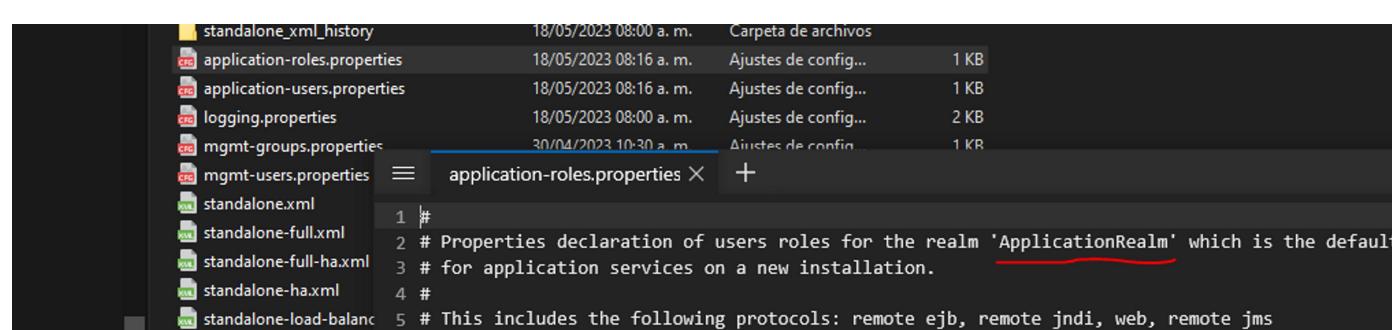


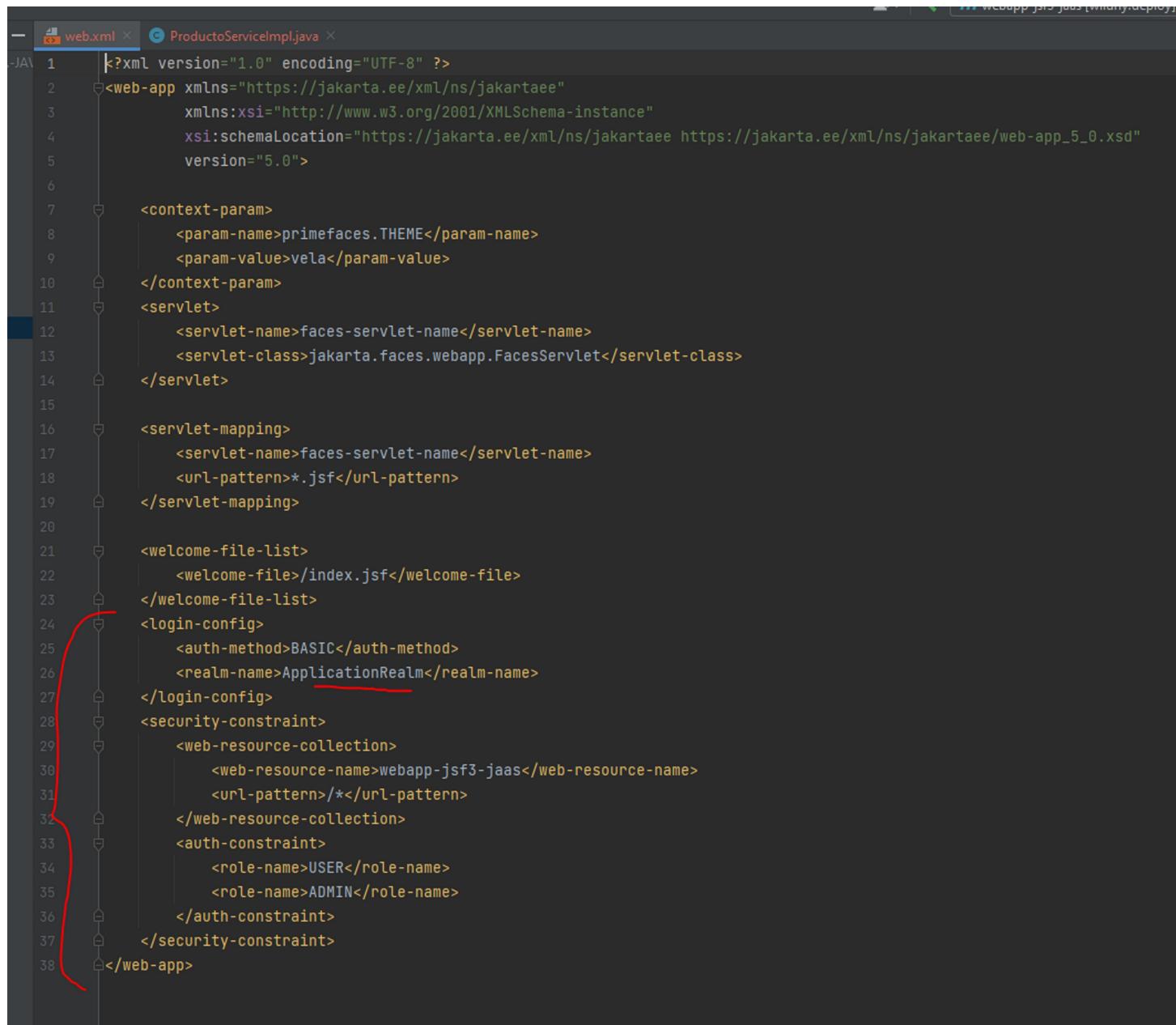
ROLES :



LUEGO SE CONFIGURA LA APLICACIÓN PARA PODER INICIAR SESIÓN :

EN EL WEB.XML :





```

<?xml version="1.0" encoding="UTF-8" ?>
<web-app xmlns="https://jakarta.ee/xml/ns/jakartaee"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="https://jakarta.ee/xml/ns/jakartaee https://jakarta.ee/xml/ns/jakartaee/web-app_5_0.xsd"
    version="5.0">

    <context-param>
        <param-name>primefaces.THEME</param-name>
        <param-value>vela</param-value>
    </context-param>
    <servlet>
        <servlet-name>faces-servlet-name</servlet-name>
        <servlet-class>jakarta.faces.webapp.FacesServlet</servlet-class>
    </servlet>

    <servlet-mapping>
        <servlet-name>faces-servlet-name</servlet-name>
        <url-pattern>*.jsf</url-pattern>
    </servlet-mapping>

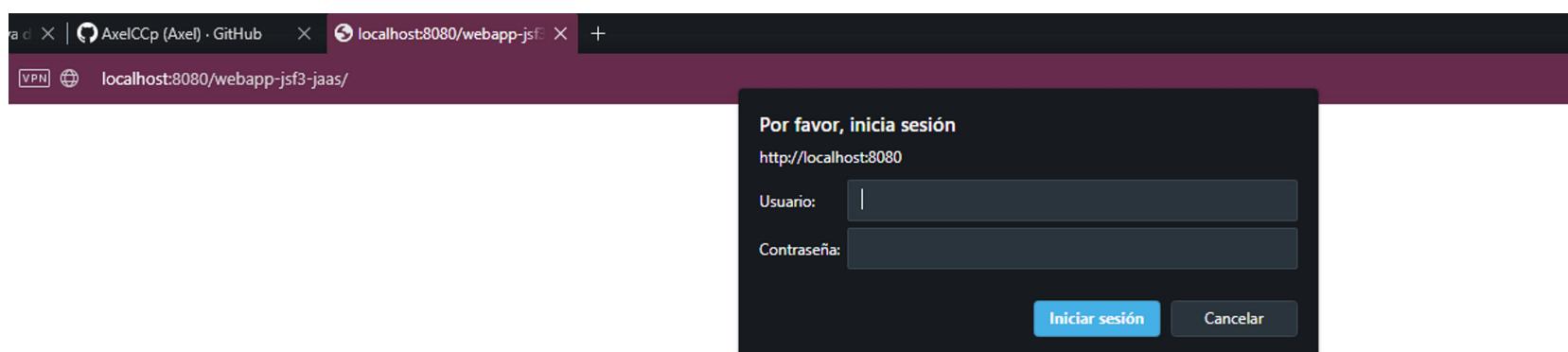
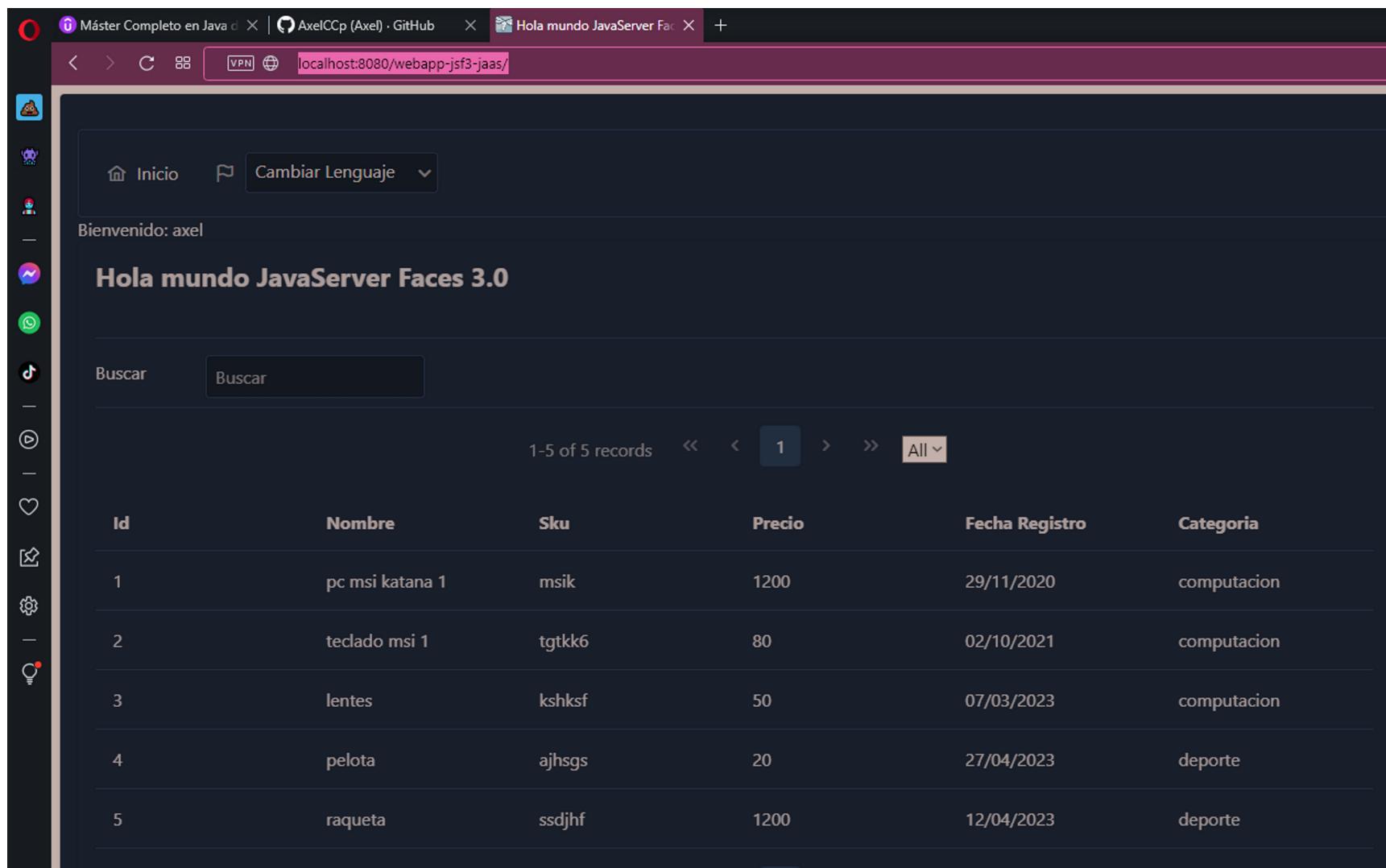
    <welcome-file-list>
        <welcome-file>/index.jsf</welcome-file>
    </welcome-file-list>
    <login-config>
        <auth-method>BASIC</auth-method>
        <realm-name>ApplicationRealm</realm-name>
    </login-config>
    <security-constraint>
        <web-resource-collection>
            <web-resource-name>webapp-jsf3-jaas</web-resource-name>
            <url-pattern>/*</url-pattern>
        </web-resource-collection>
        <auth-constraint>
            <role-name>USER</role-name>
            <role-name>ADMIN</role-name>
        </auth-constraint>
    </security-constraint>
</web-app>

```

El url pattern /* es para proteger todas las rutas.

REINICIA EL SERVIDOR WILDFLY PARA Q TOME LOS CAMBIOS DE LO NUEVOS USUARIOS

DALE RUN :

Id	Nombre	Sku	Precio	Fecha Registro	Categoría
1	pc msi katana 1	msik	1200	29/11/2020	computacion
2	teclado msi 1	tgtkk6	80	02/10/2021	computacion
3	lentes	kshksf	50	07/03/2023	computacion
4	pelota	ajhsgs	20	27/04/2023	deporte
5	raqueta	ssdjhf	1200	12/04/2023	deporte

5	raqueta	ssdjhf	1200	12/04/2023	deporte
JAKARTA EE	Desarrollado por Andres 2022		1	<< < > >> All	

----- CLASE 587 -----

SE AGREGA FORMULARIO DE LOGIN Y PAGINA DE ERROR DE LOGIN

D8_74_587_webapp-jsf3-jaas-formLogin-y-error

- 1 - SE HIZO ESTE CAMBIO, DE BASIC A FORM.
- 2 - SE AGREGAN PÁGINAS DE LOGIN Y DE ERROR DE LOGIN.
- 3 - APLICA LA RESTRICCIÓN DE ACCESO A TODAS LAS PÁGINAS .JSF
- 4 - SE AGREGA OTRO WEB SECURITY CONSTRAINT

Tools Git Window Help D8_74_587_webapp-jsf3-jaas-formLogin-y-error - web.xml

webapp > WEB-INF > web.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<web-app>
    <context-param>
        <param-name>primefaces.THEME</param-name>
        <param-value>vela</param-value>
    </context-param>
    <servlet>
        <servlet-name>faces-servlet-name</servlet-name>
        <servlet-class>jakarta.faces.webapp.FacesServlet</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>faces-servlet-name</servlet-name>
        <url-pattern>*.jsf</url-pattern>
    </servlet-mapping>
    <welcome-file-list>
        <welcome-file>/index.jsf</welcome-file>
    </welcome-file-list>
    <login-config> ✓ ↗
        <auth-method>FORM</auth-method>
        <realm-name>ApplicationRealm</realm-name>
        <form-login-config>
            <form-login-page>/login.jsf</form-login-page> ↗ 1
            <form-error-page>/loginError.jsf</form-error-page> ↗ 2
        </form-login-config>
    </login-config>
    <security-constraint>
        <web-resource-collection>
            <web-resource-name>webapp-jsf3-jaas</web-resource-name>
            <url-pattern>*.jsf</url-pattern> ↗ 3
        </web-resource-collection>
        <auth-constraint>
            <role-name>USER</role-name>
            <role-name>ADMIN</role-name>
        </auth-constraint>
    </security-constraint>
    <security-constraint>
        <web-resource-collection>
            <web-resource-name>recursos permitidos</web-resource-name>
            <url-pattern>/javax.faces.resource/*</url-pattern>
        </web-resource-collection>
    </security-constraint>
</web-app>

```

... REVISA LOS TEMPLATES DEL PROYECTO

----- CLASE 588 -----

D9_74_588_webapp-jsf3-jaas_formLogin-y-error-logout

1 - SE DEJA PUBLICO EL INDEX PARA INICIAR DONDE ESTÁ LA LISTA.

```
8      <param-name>primefaces.THEME</param-name>
9      <param-value>vela</param-value>
10     </context-param>
11     <servlet>
12       <servlet-name>faces-servlet-name</servlet-name>
13       <servlet-class>jakarta.faces.webapp.FacesServlet</servlet-class>
14     </servlet>
15
16     <servlet-mapping>
17       <servlet-name>faces-servlet-name</servlet-name>
18       <url-pattern>*.jsf</url-pattern>
19     </servlet-mapping>
20
21     <welcome-file-list>
22       <welcome-file>/index.jsf</welcome-file>
23     </welcome-file-list>
24     <login-config>
25       <auth-method>FORM</auth-method>
26       <realm-name>ApplicationRealm</realm-name>
27       <form-login-config>
28         <form-login-page>/login.jsf</form-login-page>
29         <form-error-page>/loginError.jsf</form-error-page>
30       </form-login-config>
31     </login-config>
32     <security-constraint>
33       <web-resource-collection>
34         <web-resource-name>webapp-jsf3-jasas</web-resource-name>
35         <url-pattern>*.jsf</url-pattern>
36       </web-resource-collection>
37       <auth-constraint>
38         <role-name>USER</role-name>
39         <role-name>ADMIN</role-name>
40       </auth-constraint>
41     </security-constraint>
42
43     <security-constraint>
44       <web-resource-collection>
45         <web-resource-name>recursos permitidos</web-resource-name>
46         <url-pattern>/javax.faces.resource/*</url-pattern>
47         <url-pattern>/index.jsf</url-pattern>
48       </web-resource-collection>
49     </security-constraint>
```

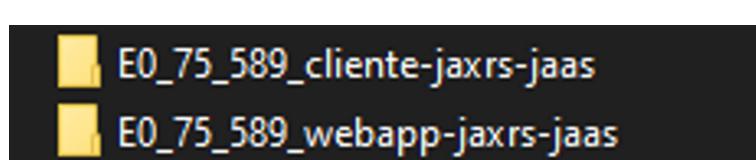
SE DEJA PUBLICA

Id	Nombre	Sku	Precio	Fecha Registro	Categoría
1	Bicicleta	1346hg	5000	29/11/2020	Deporte
2	Sony TV 2	32145	3500	29/05/2021	Tecnología
4	Tecclado Red Dragon mecánico		450	30/12/2020	Computación
5	Tecclado Corsair k95 mecánico	abcdef1234	1000	30/12/2020	Tecnología
6	Notebook Asus ROG	abcd123456	3550	31/12/2020	Computación

SECCION 75 :::

----- CLASE 589 -----

589. Implementando seguridad JAAS en Servicios Web Restful



```

package org.aguzman.cliente.jaxrs;

import ...

public class Main {
    public static void main(String[] args) {

        Client client = ClientBuilder.newClient();
        WebTarget rootUri = client.target("http://localhost:8080/webapp-jaxrs-jaas/api").path("/cursos");

        rootUri.register(new BasicAuthentication("admin", "12345"));

        System.out.println("===== por id");
        Response response = rootUri.path("/2")
            .request(MediaType.APPLICATION_JSON).get();
        Curso curso = response.readEntity(Curso.class);
        System.out.println(curso);
        System.out.println(response.getStatus());
        System.out.println(response.getMediaType());

        System.out.println("===== listando");
        listar(rootUri);

        System.out.println("===== creando");
        Curso cursoNuevo = new Curso();
        cursoNuevo.setNombre("Spring Cloud");
        cursoNuevo.setDescripcion("spring cloud eureka");
        cursoNuevo.setDuracion(250);
        Instructor instructor = new Instructor();
        instructor.setId(2L);
        instructor.setNombre("Pepe");
    }
}

```

DESDE EL POSTMAN

```

{
    "id": 2,
    "nombre": "javaee",
    "descripcion": "jakarta ee 9",
    "instructor": {
        "id": 1,
        "nombre": "Andres",
        "apellido": "Guzman"
    },
    "duracion": 50.0
}

```

----- CLASE 590 -----

590. Añadiendo reglas de seguridad a rutas url y métodos http en archivo web.xml

```

<?xml version="1.0" encoding="UTF-8" ?>
<web-app xmlns="https://jakarta.ee/xml/ns/jakartaee"
          xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
          xsi:schemaLocation="https://jakarta.ee/xml/ns/jakartaee https://jakarta.ee/xml/ns/jakartaee/web-app_5_0.xsd"
          version="5.0">

```

```

<servlet>
    <servlet-name>jakarta.ws.rs.core.Application</servlet-name>
</servlet>
<servlet-mapping>
    <servlet-name>jakarta.ws.rs.core.Application</servlet-name>
    <url-pattern>/api/*</url-pattern>
</servlet-mapping>

<login-config>
    <auth-method>BASIC</auth-method>
    <realm-name>ApplicationRealm</realm-name>
</login-config>

<security-constraint>
    <web-resource-collection>
        <web-resource-name>jax-rs get</web-resource-name>
        <url-pattern>/api/cursos</url-pattern>
        <url-pattern>/api/cursos/*</url-pattern>
        <http-method>GET</http-method>
    </web-resource-collection>
    <auth-constraint>
        <role-name>USER</role-name>
        <role-name>ADMIN</role-name>
    </auth-constraint>
</security-constraint>

<security-constraint>
    <web-resource-collection>
        <web-resource-name>jax-rs post</web-resource-name>
        <url-pattern>/api/cursos</url-pattern>
        <http-method>POST</http-method>
    </web-resource-collection>
    <auth-constraint>
        <role-name>ADMIN</role-name>
    </auth-constraint>
</security-constraint>

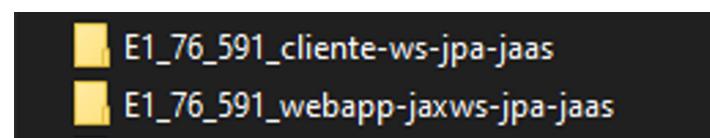
<security-constraint>
    <web-resource-collection>
        <web-resource-name>jax-rs put delete</web-resource-name>
        <url-pattern>/api/cursos/*</url-pattern>
        <http-method>PUT</http-method>
        <http-method>DELETE</http-method>
    </web-resource-collection>
    <auth-constraint>
        <role-name>ADMIN</role-name>
    </auth-constraint>
</security-constraint>
</web-app>

```

SECCION 76 :::

----- CLASE 591 -----

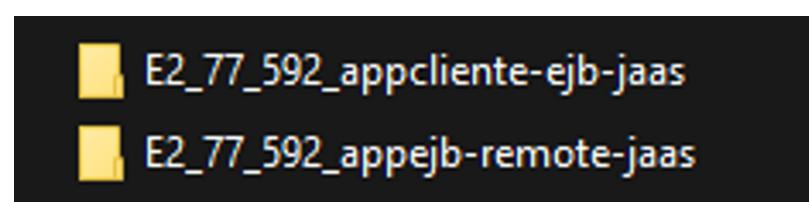
591. Implementando seguridad JAAS en Servicios Web SOAP



SECCION 77 :::

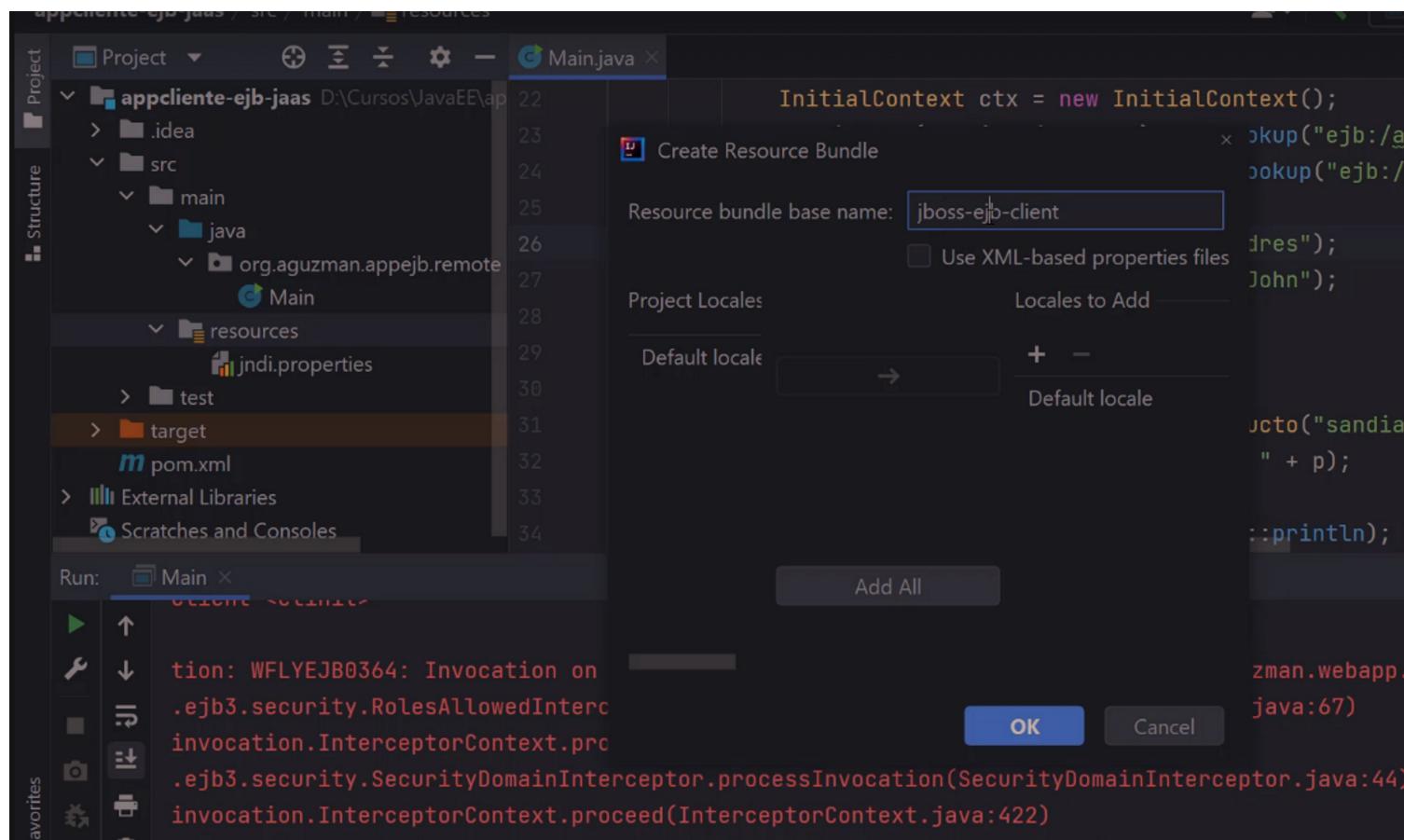
----- CLASE 592 -----

SEGURIDAD A LOS EJB



REVISA EL CÓDIGO DE LOS PROYECTOS, NO SON MUCHOS CAMBIOS. EN EL CLIENTE SE AGREGA UN PROPERTIES Y EN EL APPEJB LAS ANOTACIONES.

LUEGO CREA UN PROPERTIES EN appcliente-ejb-jaas



SECCION 78 ::::::::::::::::::::: CLASE 593 :::::::::::::::::::::

----- CLASE 593 -----

593. Comprobando seguridad programáticamente en los EJBs

E3_78_593_webapp-jsf3-jaas-seguridad-programatica

```

private ProductoRepository repository;
private CrudRepository<Categoria> categoriaRepository;
private SessionContext ctx;

@Override
@PermitAll
public List<Producto> listar() {
    Principal usuario = ctx.getCallerPrincipal();
    String username = usuario.getName();
    System.out.println("username: " + username);
    if (ctx.isCallerInRole("ADMIN")) {
        System.out.println("Hola soy un administrador!");
    } else if (ctx.isCallerInRole("USER")) {
        System.out.println("Hola soy un usuario normal!");
    } else {
        System.out.println("Hola soy un usuario anónimo!");
        throw new SecurityException("Lo sentimos no tienes permisos para acceder a esta página");
    }
    return repository.listar();
}

@RolesAllowed({"USER", "ADMIN"})
@Override
public Optional<Producto> porId(Long id) { return Optional.ofNullable(repository.porId(id)); }

@RolesAllowed({"ADMIN"})
@Override
public void guardar(Producto producto) { repository.guardar(producto); }

@RolesAllowed({"ADMIN"})
@Override

```

FIN