Asociaciones en JPA

Lazy

```java
private static final long serialVersionUID = 1L;
@Id
@GeneratedValue(strategy = GenerationType.IDENTITY)
@Basic(optional = false)
@Column(name = "id_persona")
private Integer idPersona;
@Size(max = 45)
private String nombre;
@Size(max = 45)
private String apellido;
// @Pattern(regexp="[a-z0-9!#$%&'*+/=?^_`{|}~-]+(?:\\.[a-z0-9!#$%&'*+/=?^_`{|}
@Size(max = 45)
private String email;
@Size(max = 45)
private String telefono;
@OneToMany(mappedBy = "persona")
private List<Usuario> usuarioList;
```

```java
package sv.com.gm.sga.cliente.asociaciones;

import java.util.List;
import javax.persistence.*;
import org.apache.logging.log4j.*;
import sv.com.gm.sga.domain.Persona;
import sv.com.gm.sga.domain.Usuario;

public class ClienteAsociacionesJPA {
    static Logger log = LogManager.getRootLogger();
    public static void main(String[] args) {
        EntityManagerFactory emf= Persistence.createEntityManagerFactory(persistenceUnitName:"SgaPU");
        EntityManager em=emf.createEntityManager();
        List<Persona> personas = em.createNamedQuery(name:"Persona.findAll").getResultList();
        em.close();

        for(Persona persona : personas){
            log.debug("Persona: "+ persona);
            for (Usuario usuario : persona.getUsuarioList() ){
                log.debug("usuario: "+ usuario);
            }
        }
    }
}
```

```
java.lang.IllegalArgumentException: Unsupported class file major version 61
[EL Severe]: metadata: 2023-11-02 17:34:27.508--ServerSession(53940034)--The java.lang.Number class was compiled with an unsupported JDK. Report this error to the EclipseLink open source project.
java.lang.ArrayIndexOutOfBoundsException: Index 8 out of bounds for length 0
[EL Info]: 2023-11-02 17:34:27.624--ServerSession(53940034)--EclipseLink, version: Eclipse Persistence Services - 2.7.4.v20190115-ad5b7c6b2a
[EL Info]: connection: 2023-11-02 17:34:27.803--ServerSession(53940034)--file:/C:/Users/Johan/Desktop/consiti 2023/JAVA EE/leccion 5/sv.com.gm.sga_sga-jee-web_war_1.0/target/classes/_SgaPU login successful
[EL Fine]: sql: 2023-11-02 17:34:27.818--ServerSession(53940034)--Connection(8197402)--SELECT id_persona, APELLIDO, EMAIL, NOMBRE, TELEFONO FROM PERSONA
17:34:27 [main] DEBUG  - Persona: Persona{idPersona=1, nombre=Juan, apellido=Perez, email=jperez@mail.com, telefono=22577777}
[EL Fine]: sql: 2023-11-02 17:34:27.845--ServerSession(53940034)--Connection(8197402)--SELECT id_usuario, PASSWORD, USERNAME, id_persona FROM USUARIO WHERE (id_persona = ?)
    bind => [1 parameter bound]
17:34:27 [main] DEBUG  - usuario: Usuario{idUsuario=1, username=jperez, password=123, persona=Persona{idPersona=1, nombre=Juan, apellido=Perez, email=jperez@mail.com, telefono=22577777}}
17:34:27 [main] DEBUG  - Persona: Persona{idPersona=2, nombre=Karla, apellido=Gomez, email=kgomez@mail.com, telefono=25252525}
[EL Fine]: sql: 2023-11-02 17:34:27.849--ServerSession(53940034)--Connection(8197402)--SELECT id_usuario, PASSWORD, USERNAME, id_persona FROM USUARIO WHERE (id_persona = ?)
    bind => [1 parameter bound]
17:34:27 [main] DEBUG  - usuario: Usuario{idUsuario=2, username=kgomez, password=123, persona=Persona{idPersona=2, nombre=Karla, apellido=Gomez, email=kgomez@mail.com, telefono=25252525}}
17:34:27 [main] DEBUG  - Persona: Persona{idPersona=3, nombre=Maria, apellido=Gutierrez, email=mgutierrez@mail.com, telefono=88991199}
[EL Fine]: sql: 2023-11-02 17:34:27.85--ServerSession(53940034)--Connection(8197402)--SELECT id_usuario, PASSWORD, USERNAME, id_persona FROM USUARIO WHERE (id_persona = ?)
    bind => [1 parameter bound]
17:34:27 [main] DEBUG  - usuario: Usuario{idUsuario=3, username=mgutierrez, password=123, persona=Persona{idPersona=3, nombre=Maria, apellido=Gutierrez, email=mgutierrez@mail.com, telefono=88991199}}
17:34:27 [main] DEBUG  - Persona: Persona{idPersona=4, nombre=Pedro, apellido=Luna, email=pedro@gmail.com, telefono=13132153}
[EL Fine]: sql: 2023-11-02 17:34:27.851--ServerSession(53940034)--Connection(8197402)--SELECT id_usuario, PASSWORD, USERNAME, id_persona FROM USUARIO WHERE (id_persona = ?)
    bind => [1 parameter bound]
-------------------------------------------------------------
BUILD SUCCESS
```

Eager:

```java
@OneToMany(mappedBy = "persona",fetch = FetchType.EAGER)
private List<Usuario> usuarioList;
```

```java
@JoinColumn(name = "id_persona", referencedColumnName = "id_persona")
@ManyToOne(fetch=FetchType.EAGER)
private Persona persona;
```

```
java.lang.ArrayIndexOutOfBoundsException: Index 8 out of bounds for length 0
[EL Info]: 2023-11-02 17:44:14.302--ServerSession(53940034)--EclipseLink, version: Eclipse Persistence Services - 2.7.4.v20190115-ad5b7c6b2a
[EL Info]: connection: 2023-11-02 17:44:14.467--ServerSession(53940034)--/file:/C:/Users/Johan/Desktop/consiti 2023/JAVA EE/leccion 5/sv.com.gm.sga_sga-jee-web_war_1.0/target/classes/_SgaPU login successful
[EL Fine]: sql: 2023-11-02 17:44:14.483--ServerSession(53940034)--Connection(1418245573)--SELECT id_persona, APELLIDO, EMAIL, NOMBRE, TELEFONO FROM PERSONA
[EL Fine]: sql: 2023-11-02 17:44:14.502--ServerSession(53940034)--Connection(1418245573)--SELECT id_usuario, PASSWORD, USERNAME, id_persona FROM USUARIO WHERE (id_persona = ?)
    bind => [1 parameter bound]
[EL Fine]: sql: 2023-11-02 17:44:14.505--ServerSession(53940034)--Connection(1418245573)--SELECT id_usuario, PASSWORD, USERNAME, id_persona FROM USUARIO WHERE (id_persona = ?)
    bind => [1 parameter bound]
[EL Fine]: sql: 2023-11-02 17:44:14.507--ServerSession(53940034)--Connection(1418245573)--SELECT id_usuario, PASSWORD, USERNAME, id_persona FROM USUARIO WHERE (id_persona = ?)
    bind => [1 parameter bound]
[EL Fine]: sql: 2023-11-02 17:44:14.508--ServerSession(53940034)--Connection(1418245573)--SELECT id_usuario, PASSWORD, USERNAME, id_persona FROM USUARIO WHERE (id_persona = ?)
    bind => [1 parameter bound]
17:44:14 [main] DEBUG  - Persona: Persona{idPersona=1, nombre=Juan, apellido=Perez, email=jperez@mail.com, telefono=22577777}
17:44:14 [main] DEBUG  - usuario: Usuario{idUsuario=1, username=jperez, password=123, persona=Persona{idPersona=1, nombre=Juan, apellido=Perez, email=jperez@mail.com, telefono=22577777}}
17:44:14 [main] DEBUG  - Persona: Persona{idPersona=2, nombre=Karla, apellido=Gomez, email=kgomez@mail.com, telefono=25252525}
17:44:14 [main] DEBUG  - usuario: Usuario{idUsuario=2, username=kgomez, password=123, persona=Persona{idPersona=2, nombre=Karla, apellido=Gomez, email=kgomez@mail.com, telefono=25252525}}
17:44:14 [main] DEBUG  - Persona: Persona{idPersona=3, nombre=Maria, apellido=Gutierrez, email=mgutierrez@mail.com, telefono=88991199}
17:44:14 [main] DEBUG  - usuario: Usuario{idUsuario=3, username=mgutierrez, password=123, persona=Persona{idPersona=3, nombre=Maria, apellido=Gutierrez, email=mgutierrez@mail.com, telefono=88991199}}
17:44:14 [main] DEBUG  - Persona: Persona{idPersona=4, nombre=Pedro, apellido=Luna, email=pedro@gmail.com, telefono=13132153}
```

Persistencia en cascada:

```java
@ManyToOne(cascade = CascadeType.ALL)
private Persona persona;
```

```java
@OneToMany(mappedBy = "persona", cascade = CascadeType.ALL)
private List<Usuario> usuarioList;
```

```java
public class PersistenciaCascadaJPA {
    static Logger log=LogManager.getRootLogger();
    public static void main(String[] args) {
        EntityManagerFactory emf = Persistence.createEntityManagerFactory(persistenceUnitName:"SgaPU");
        EntityManager em = emf.createEntityManager();
        EntityTransaction tx = em.getTransaction();
        tx.begin();

        Persona personal = new Persona(nombre: "Hugo", apellido:"Hernandez", email: "hhernandez@mail.com", telefono: "55778822");

        Usuario usuario1 = new Usuario(username:"hhernandez", password:"123", persona:personal);

        em.persist(entity: usuario1);

        tx.commit();

        log.debug("objeto persistido persona:" + personal);
        log.debug("objeto persistido usuario:" + usuario1);

        em.close();
    }
}
```

```
[EL Info]: 2023-11-02 17:59:53.496--ServerSession(53940034)--EclipseLink, version: Eclipse Persistence Services - 2.7.4.v20190115-ad5b7c6b2a
[EL Info]: connection: 2023-11-02 17:59:53.663--ServerSession(53940034)--/file:/C:/Users/Johan/Desktop/consiti 2023/JAVA EE/leccion 5/sv.com.gm.sga_sga-jee-web_war_1.0/target/classes/_SgaPU login successful
[EL Fine]: sql: 2023-11-02 17:59:53.68--ClientSession(159917166)--Connection(1649498695)--INSERT INTO PERSONA (APELLIDO, EMAIL, NOMBRE, TELEFONO) VALUES (?, ?, ?, ?)
    bind => [4 parameters bound]
[EL Fine]: sql: 2023-11-02 17:59:53.69--ClientSession(159917166)--Connection(1649498695)--SELECT LAST_INSERT_ID()
[EL Fine]: sql: 2023-11-02 17:59:53.701--ClientSession(159917166)--Connection(1649498695)--INSERT INTO USUARIO (PASSWORD, USERNAME, id_persona) VALUES (?, ?, ?)
    bind => [3 parameters bound]
[EL Fine]: sql: 2023-11-02 17:59:53.702--ClientSession(159917166)--Connection(1649498695)--SELECT LAST_INSERT_ID()
17:59:53 [main] DEBUG  - objeto persistido persona:Persona{idPersona=6, nombre=Hugo, apellido=Hernandez, email=hhernandez@mail.com, telefono=55778822}
17:59:53 [main] DEBUG  - objeto persistido usuario:Usuario{idUsuario=4, username=hhernandez, password=123, persona=Persona{idPersona=6, nombre=Hugo, apellido=Hernandez, email=hhernandez@mail.com, telefono=55778822}}
```