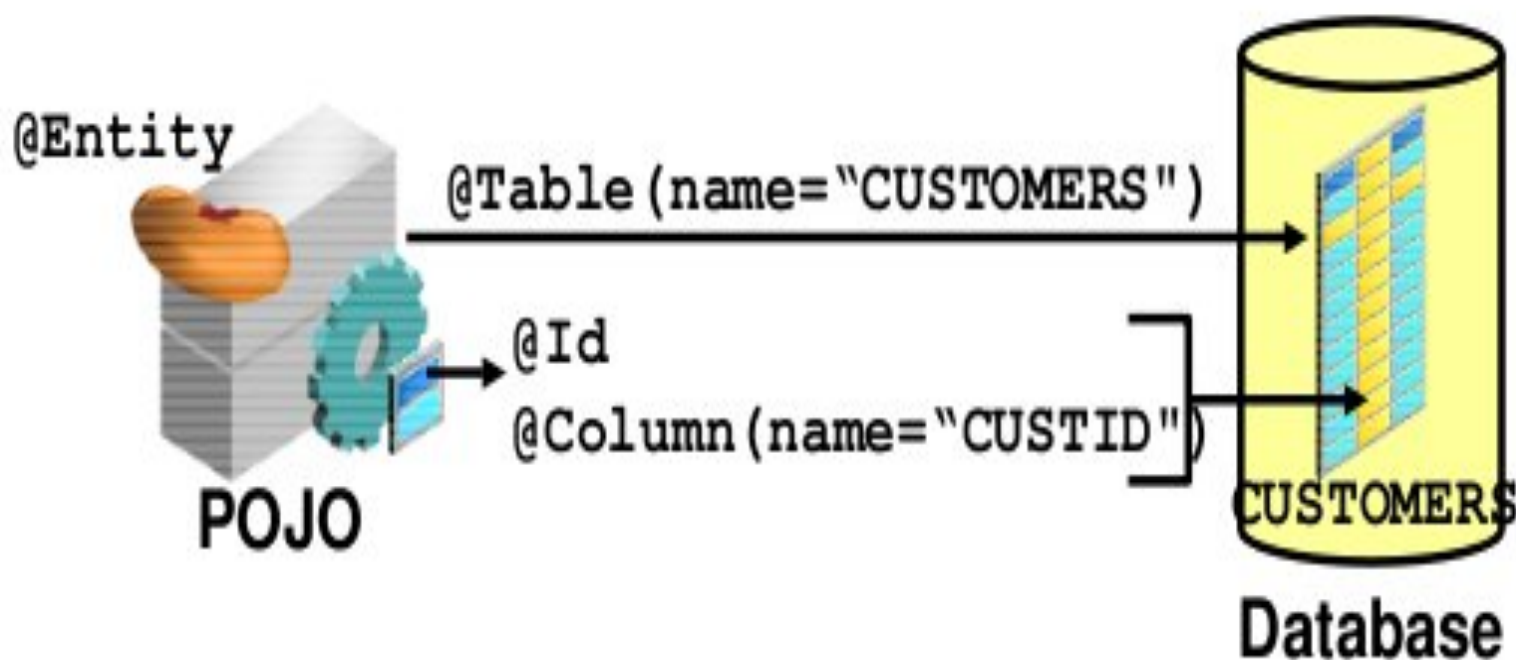


Curso Desenvolvedor Java

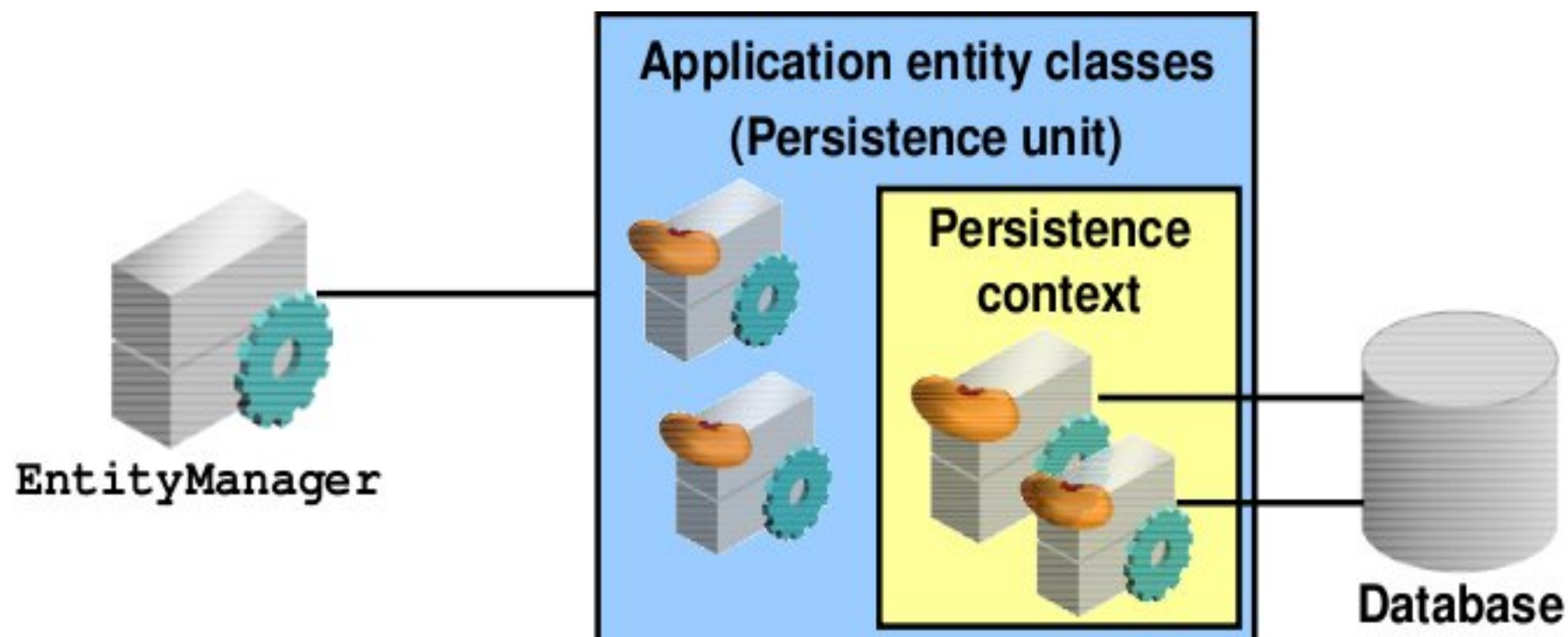


JPA

Java Persistence API



Entity Manager

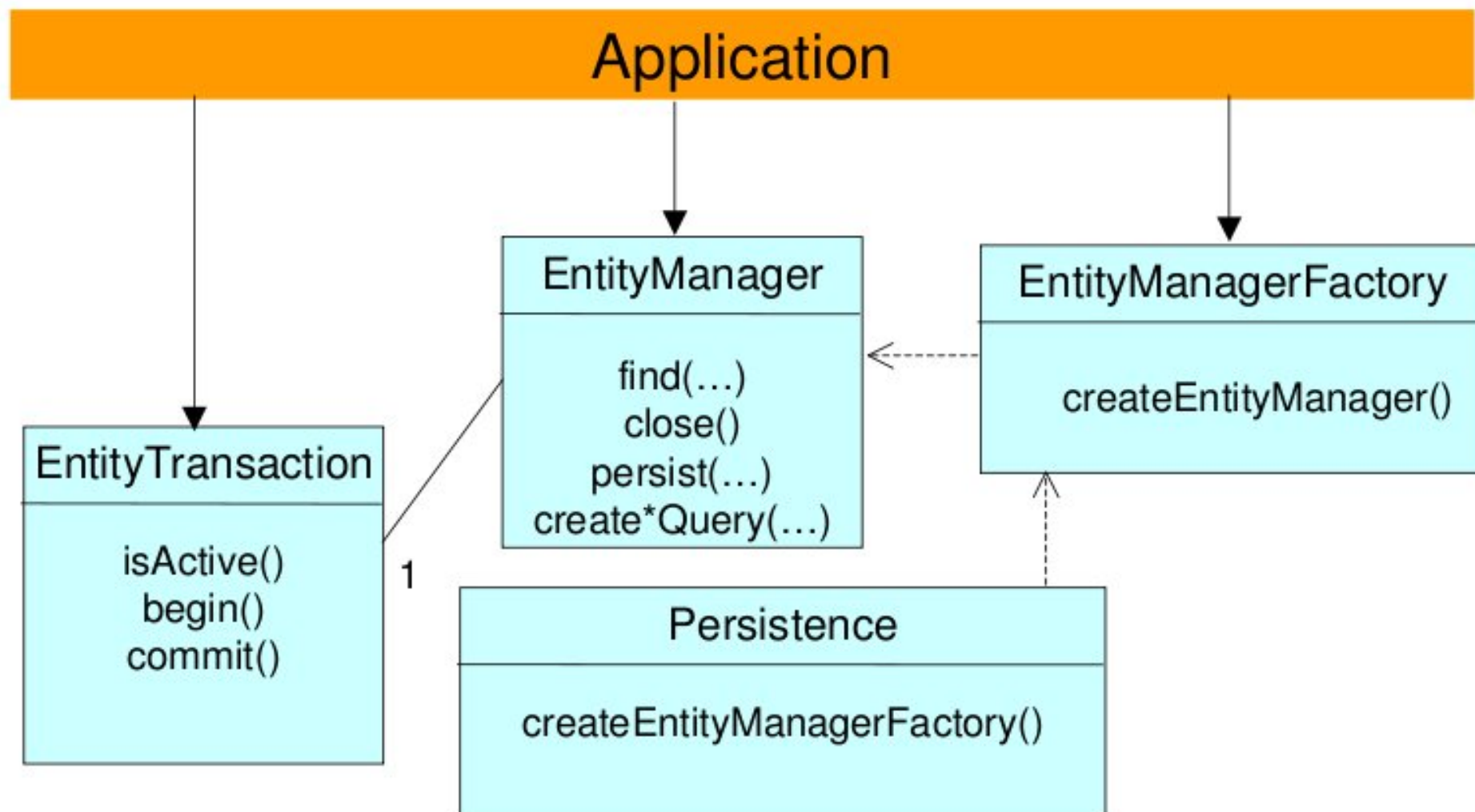


Entity Manager

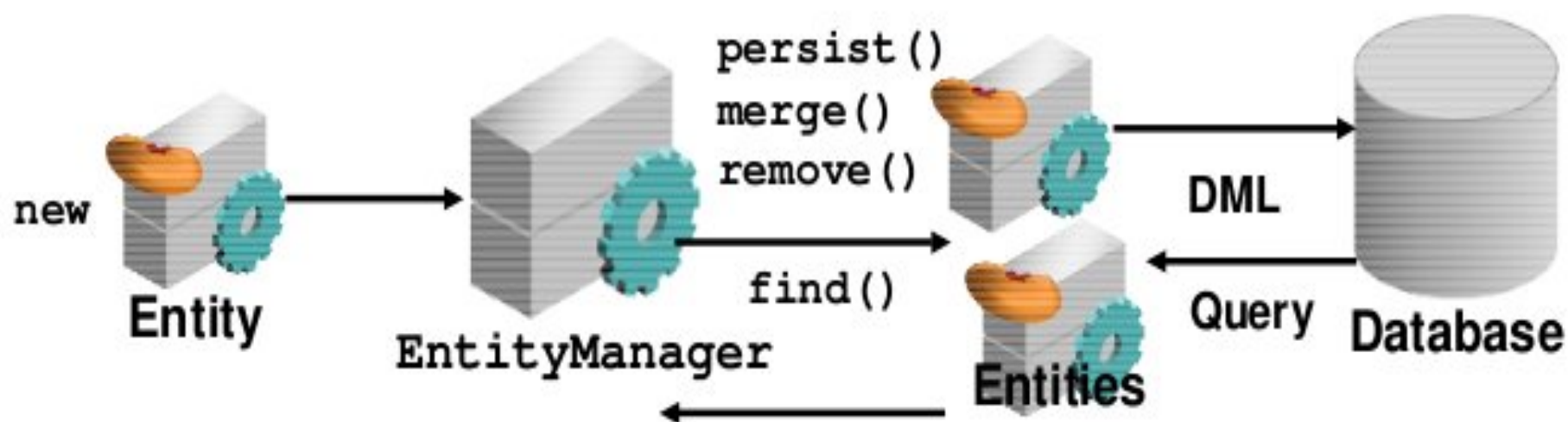
Arquivo persistence.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<persistence version="1.0"
  xmlns="http://java.sun.com/xml/ns/persistence"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://java.sun.com/xml/ns/persistence http://java.sun.com/xml/ns/persistence/persistence_1_0.xsd">
  <persistence-unit name="empresa" transaction-type="RESOURCE_LOCAL">
    <provider>org.hibernate.ejb.HibernatePersistence</provider>
    <non-jta-data-source>java:Empresa</non-jta-data-source>
    <class>modelo.Fone</class>
    <class>modelo.Funcionario</class>
    <class>modelo.Pessoa</class>
    <exclude-unlisted-classes/>
    <properties>
      <property name="hibernate.dialect" value="org.hibernate.dialect.MySQLInnoDBDialect" />
    </properties>
  </persistence-unit>
</persistence>
```

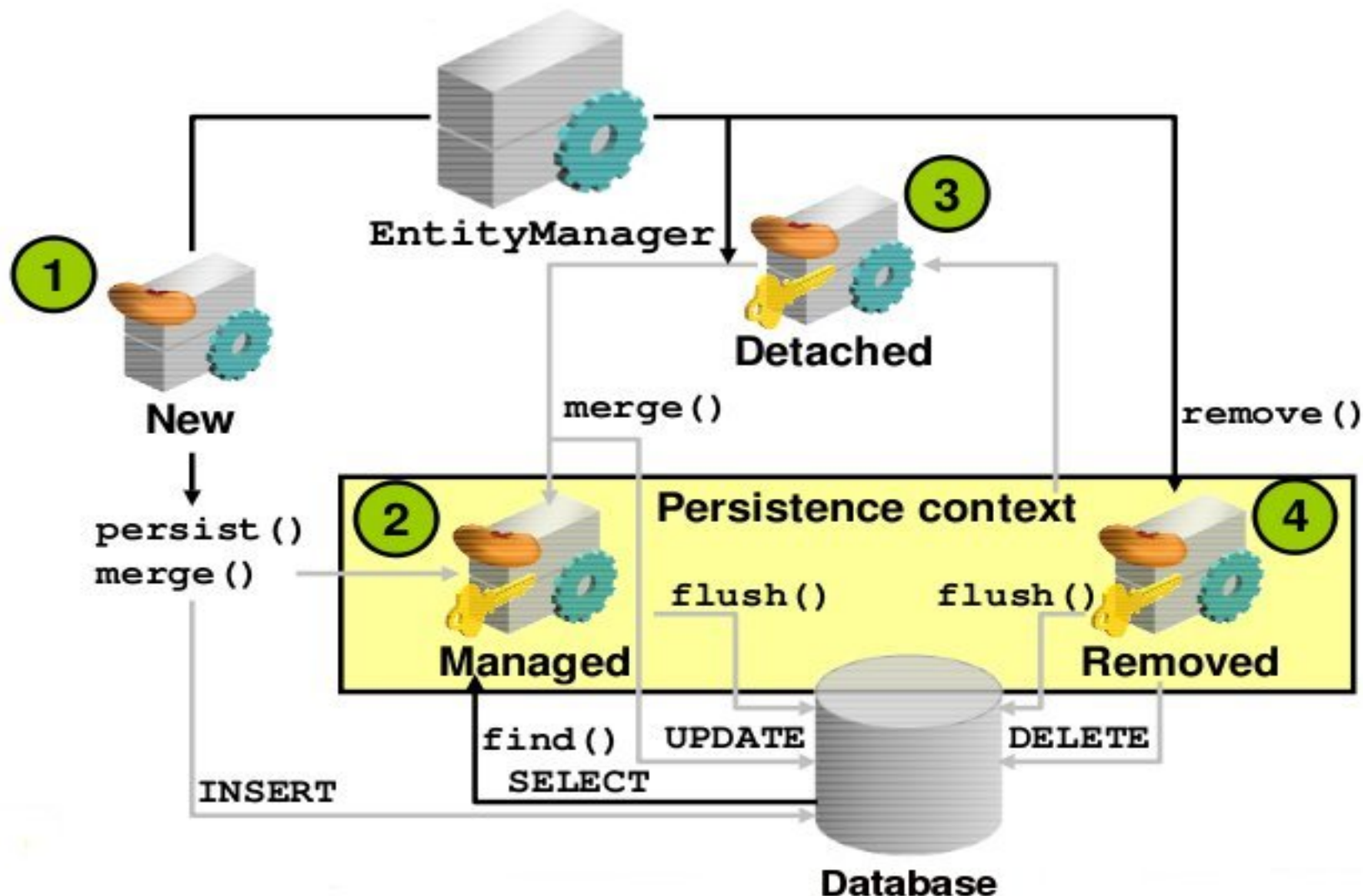
Aplicação



Persistindo um Objeto

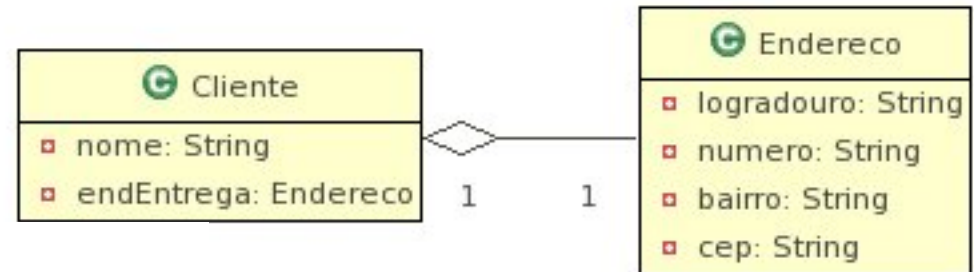


Ciclo de Vida

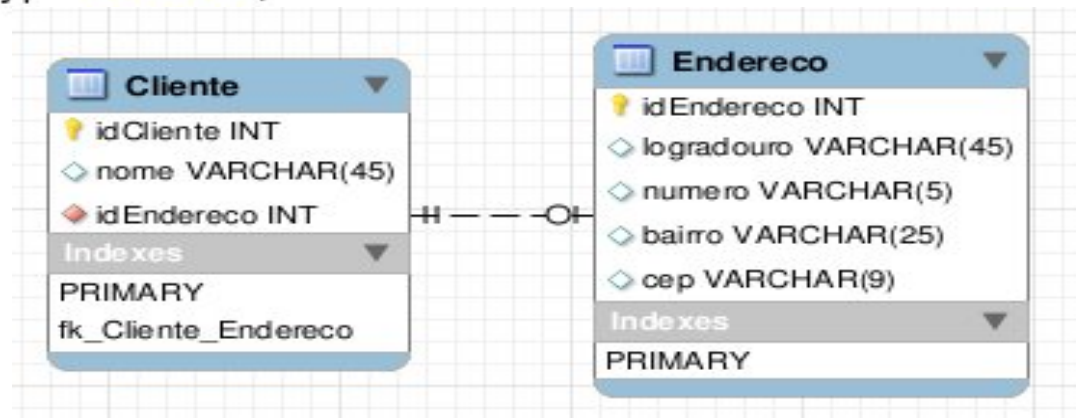


Relacionamento 1:1 unidirecional

```
@Entity
public class Cliente implements Serializable {
    @Id
    @GeneratedValue(strategy=GenerationType.IDENTITY)
    private Integer idCliente;
    private String nome;
    @OneToOne
    @JoinColumn(name="idEndereco")
    private Endereco endEntrega;
```

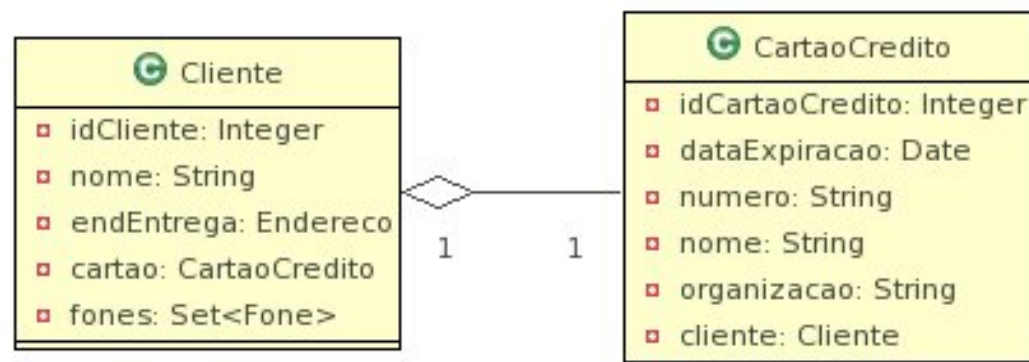


```
@Entity
public class Endereco {
    @Id
    @GeneratedValue(strategy=GenerationType.IDENTITY)
    private Integer idEndereco;
    private String logradouro;
    private String numero;
    private String bairro;
    private String cep;
```

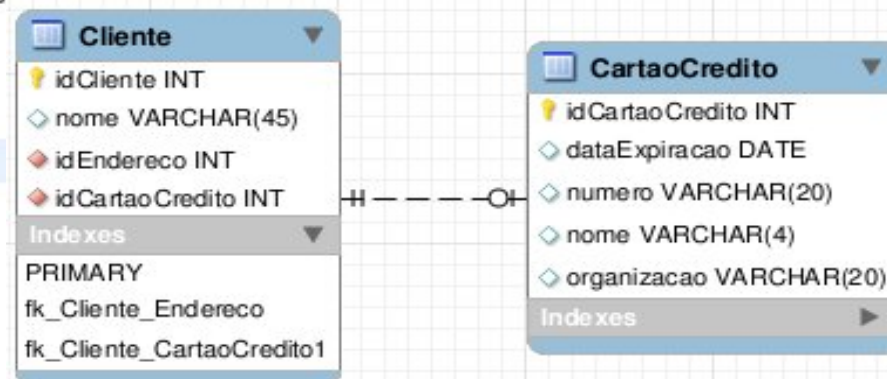


Relacionamento 1:1 bidirecional

```
@Entity
public class Cliente implements Serializable {
    @Id
    @GeneratedValue(strategy=GenerationType.IDENTITY)
    private Integer idCliente;
    private String nome;
    @OneToOne
    @JoinColumn(name="idEndereco")
    private Endereco endEntrega;
    @OneToOne
    @JoinColumn(name="idCartaoCredito")
    private CartaoCredito cartao;
}
```



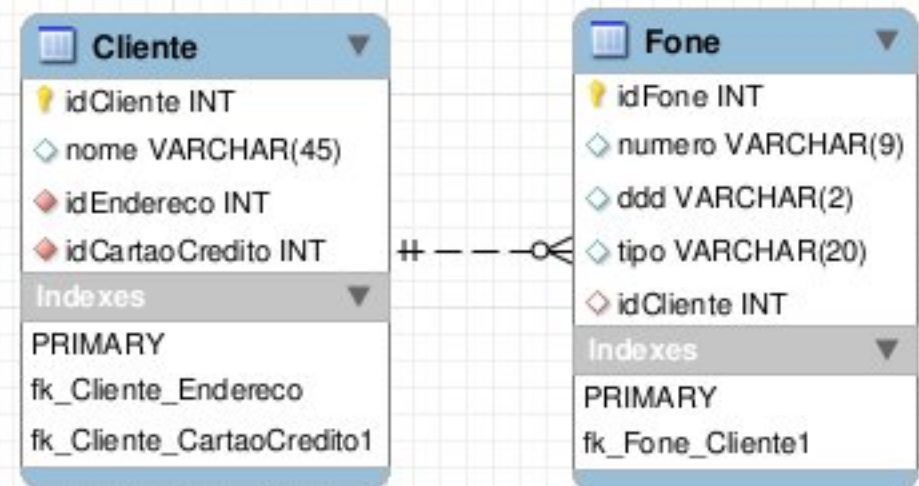
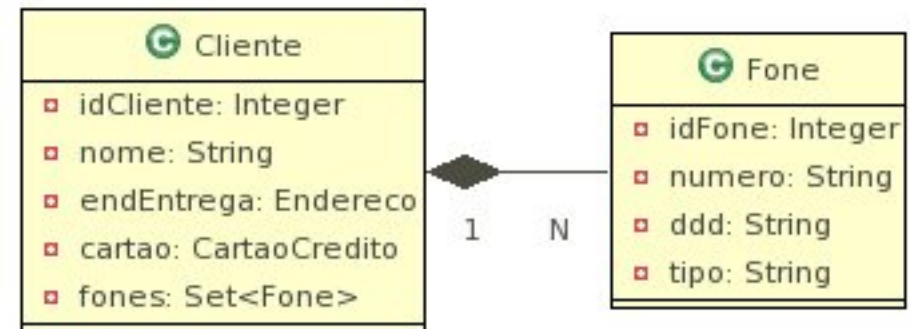
```
@Entity
public class CartaoCredito implements Serializable {
    @Id
    @GeneratedValue(strategy=GenerationType.IDENTITY)
    private Integer idCartaoCredito;
    @Temporal(TemporalType.DATE)
    private Date dataExpiracao;
    private String numero;
    private String nome;
    private String organizacao;
    @OneToOne(mappedBy="cartao")
    private Cliente cliente;
}
```



Relacionamento 1:N unidirecional

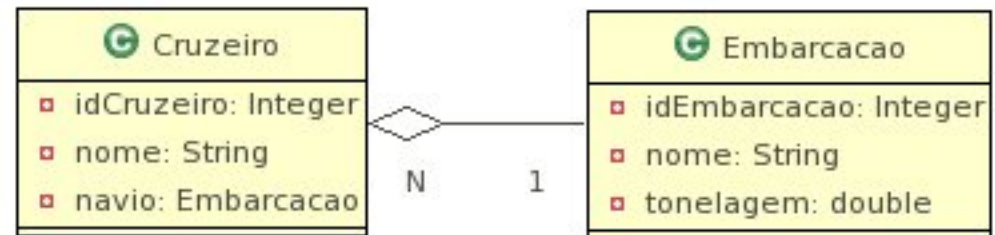
```
@Entity
public class Cliente implements Serializable {
    @OneToMany
    @JoinColumn(name="idCliente")
    private Set<Fone> fones = new TreeSet<Fone>();
}
```

```
@Entity
public class Fone implements Serializable {
    @Id
    @GeneratedValue(strategy=GenerationType.IDENTITY)
    private Integer idFone;
    private String numero;
    private String ddd;
    private String tipo;
}
```

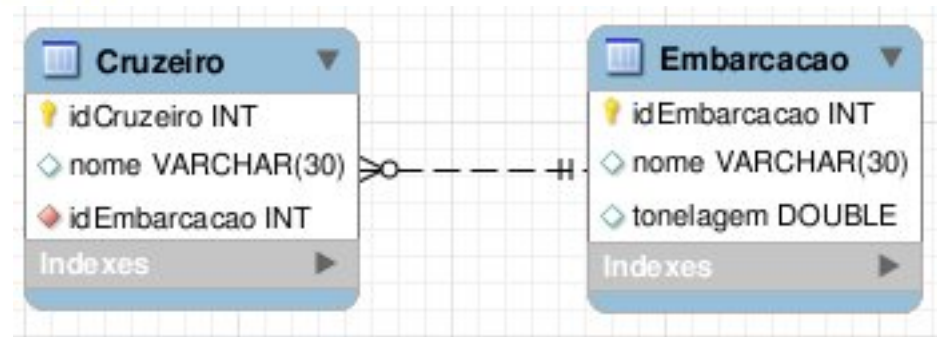


Relacionamento N:1 unidirecional

```
@Entity
public class Cruzeiro implements Serializable {
    @Id
    @GeneratedValue(strategy=GenerationType.IDENTITY)
    private Integer idCruzeiro;
    private String nome;
    @ManyToOne
    @JoinColumn(name="idEmbarcacao")
    private Embarcacao navio;
}
```

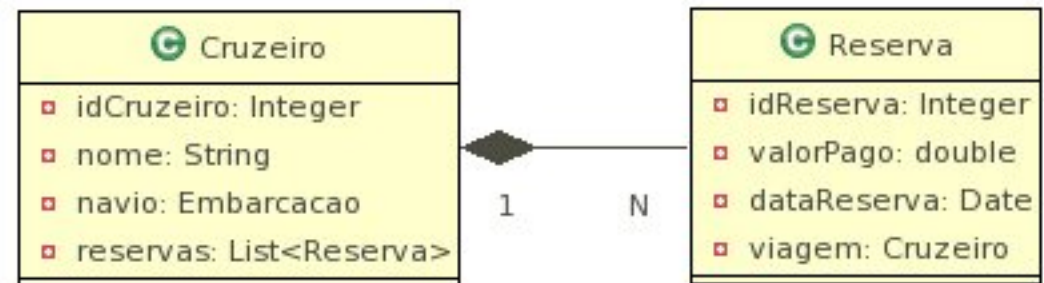


```
@Entity
public class Embarcacao implements Serializable {
    @Id
    @GeneratedValue(strategy=GenerationType.IDENTITY)
    private Integer idEmbarcacao;
    private String nome;
    private double tonelagem;
}
```

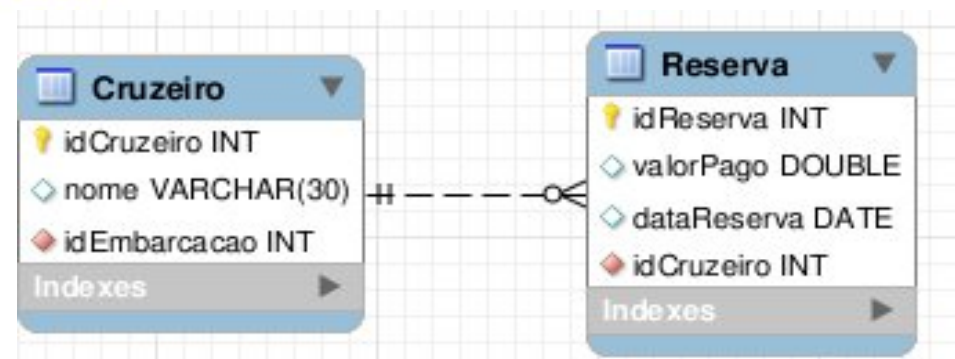


Relacionamento 1:N bidirecional

```
@Entity
public class Cruzeiro implements Serializable {
    @OneToMany(mappedBy="viagem")
    private List<Reserva> reservas = new ArrayList<Reserva>();
}
```

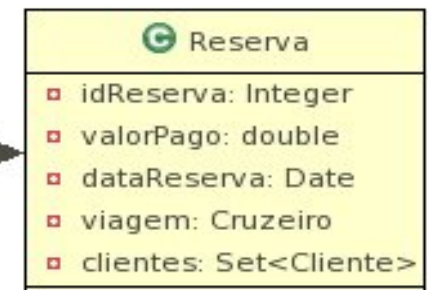


```
@Entity
public class Reserva implements Serializable {
    @Id
    @GeneratedValue(strategy=GenerationType.IDENTITY)
    private Integer idReserva;
    private double valorPago;
    @Temporal(TemporalType.DATE)
    private Date dataReserva;
    @ManyToOne
    @JoinColumn(name="idCruzeiro")
    private Cruzeiro viagem;
}
```



Relacionamento N:N bidirecional

```
@Entity
public class Cliente implements Serializable {
    @ManyToMany(mappedBy="clientes")
    private List<Reserva> reservas = new ArrayList<Reserva>();
}
```



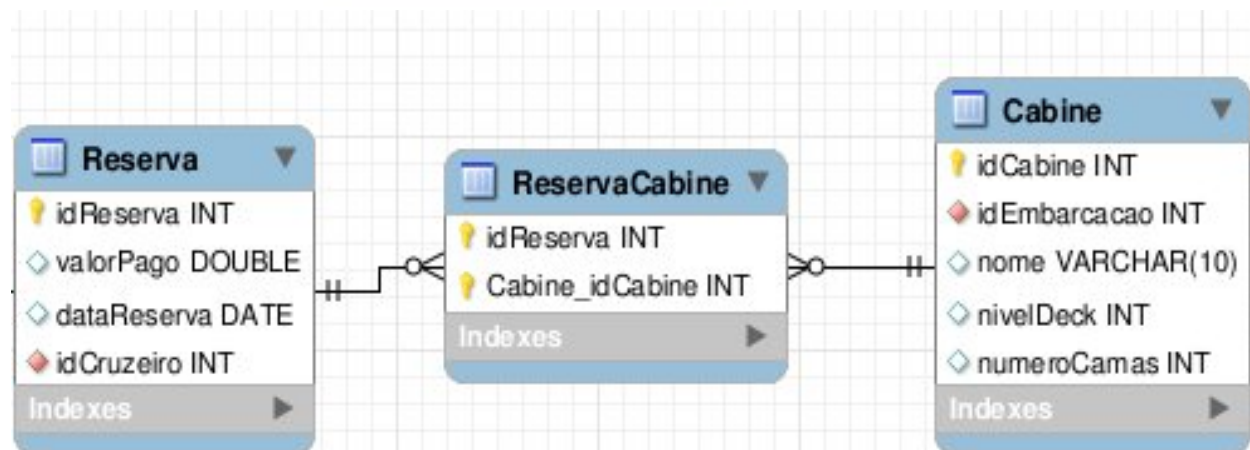
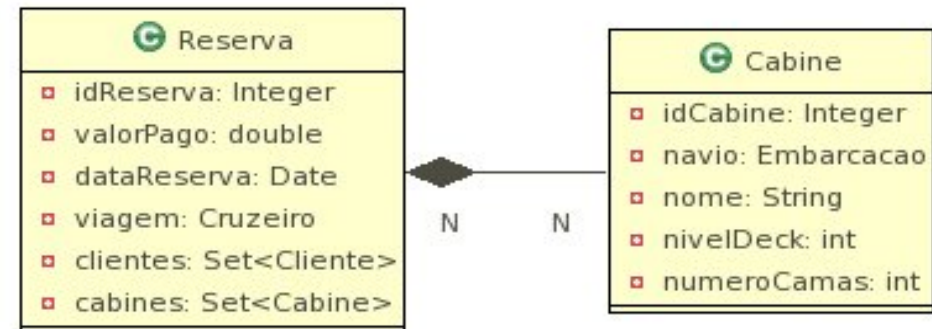
```
@Entity
public class Reserva implements Serializable {
    @ManyToMany
    @JoinTable(name="ReservaCliente",
        joinColumns={@JoinColumn(name="idReserva")},
        inverseJoinColumns={@JoinColumn(name="idCliente")})
    private Set<Cliente> clientes = new HashSet<Cliente>();
}
```



Relacionamento N:N unidirecional

```
@Entity
public class Reserva implements Serializable {
    @ManyToMany
    @JoinTable(name="ReservaCabine",
        joinColumns={@JoinColumn(name="idReserva")},
        inverseJoinColumns={@JoinColumn(name="idCabine")})
    private Set<Cabine> cabines = new HashSet<Cabine>();
}
```

```
@Entity
public class Cabine implements Serializable {
    @Id
    @GeneratedValue(strategy=GenerationType.IDENTITY)
    private Integer idCabine;
    @ManyToOne
    @JoinColumn(name="idEmbarcacao")
    private Embarcacao navio;
    private String nome;
    private int nivelDeck;
    private int numeroCamas;
}
```

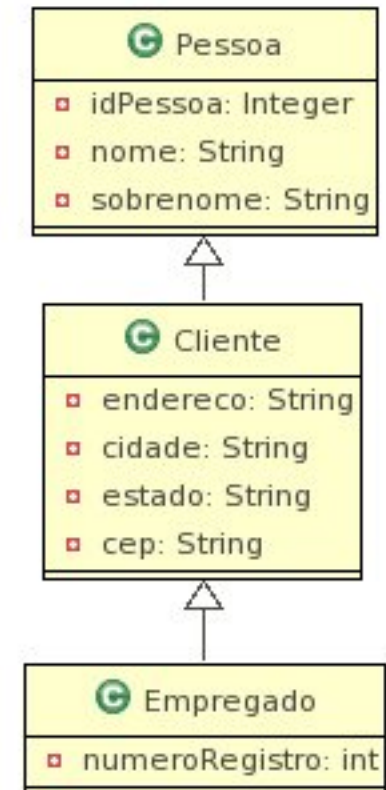


Herança "Single Table"

```
@Entity
@Inheritance(strategy=InheritanceType.SINGLE_TABLE)
@DiscriminatorColumn(name="tipo",
    discriminatorType=DiscriminatorType.CHAR)
public class Pessoa implements Serializable {
    @Id
    @GeneratedValue(strategy=GenerationType.IDENTITY)
    private Integer idPessoa;
    private String nome;
    private String sobrenome;
```

```
@Entity
@DiscriminatorValue("C")
public class Cliente extends Pessoa {
    private String endereco;
    private String cidade;
    private String estado;
    private String cep;
```

```
@Entity
@DiscriminatorValue("E")
public class Empregado extends Cliente {
    private int numeroRegistro;
```

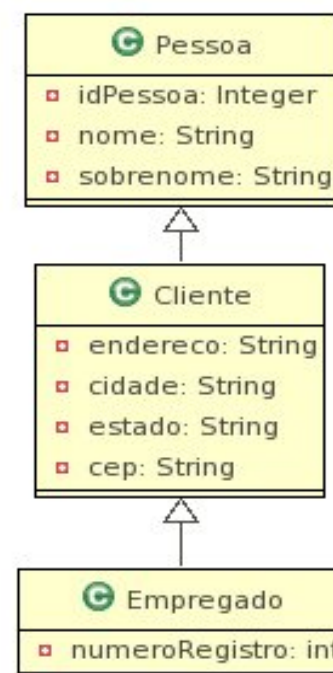


Herança “Table per Class”

```
@Entity
@Inheritance(strategy=InheritanceType.TABLE_PER_CLASS)
public class Pessoa implements Serializable {
    @Id
    @GeneratedValue(strategy=GenerationType.IDENTITY)
    private Integer idPessoa;
    private String nome;
    private String sobrenome;
```

```
@Entity
public class Cliente extends Pessoa {
    private String endereco;
    private String cidade;
    private String estado;
    private String cep;
```

```
@Entity
public class Empregado extends Cliente {
    private int numeroRegistro;
```



Herança “Joined”

```
@Entity
@Inheritance(strategy=InheritanceType.JOINED)
public class Pessoa implements Serializable {
    @Id
    @GeneratedValue(strategy=GenerationType.IDENTITY)
    private Integer idPessoa;
    private String nome;
    private String sobrenome;
```

```
@Entity
@PrimaryKeyJoinColumn(name="idCliente")
public class Cliente extends Pessoa {
    private String endereco;
    private String cidade;
    private String estado;
    private String cep;
```

```
@Entity
@PrimaryKeyJoinColumn(name="idEmpregado")
public class Empregado extends Cliente {
    private int numeroRegistro;
```

