

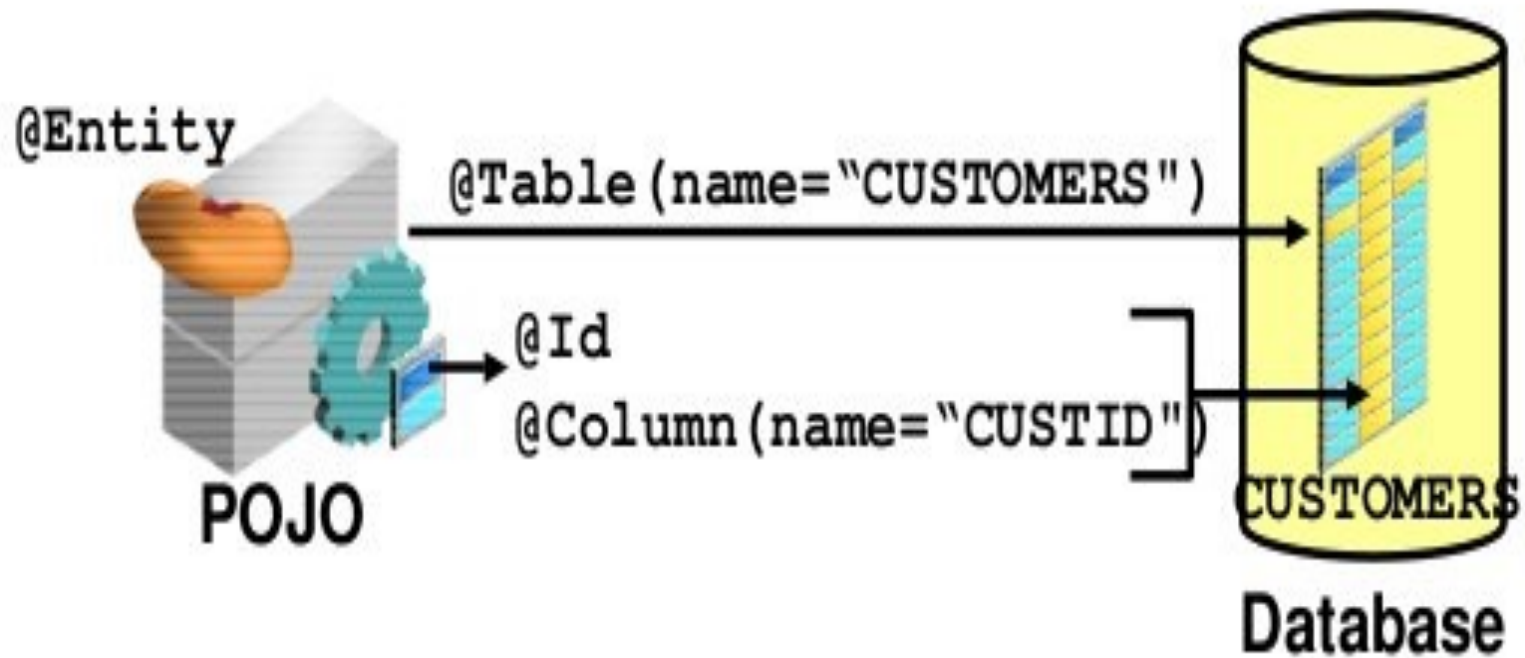
# Curso Java Web com Spring MVC



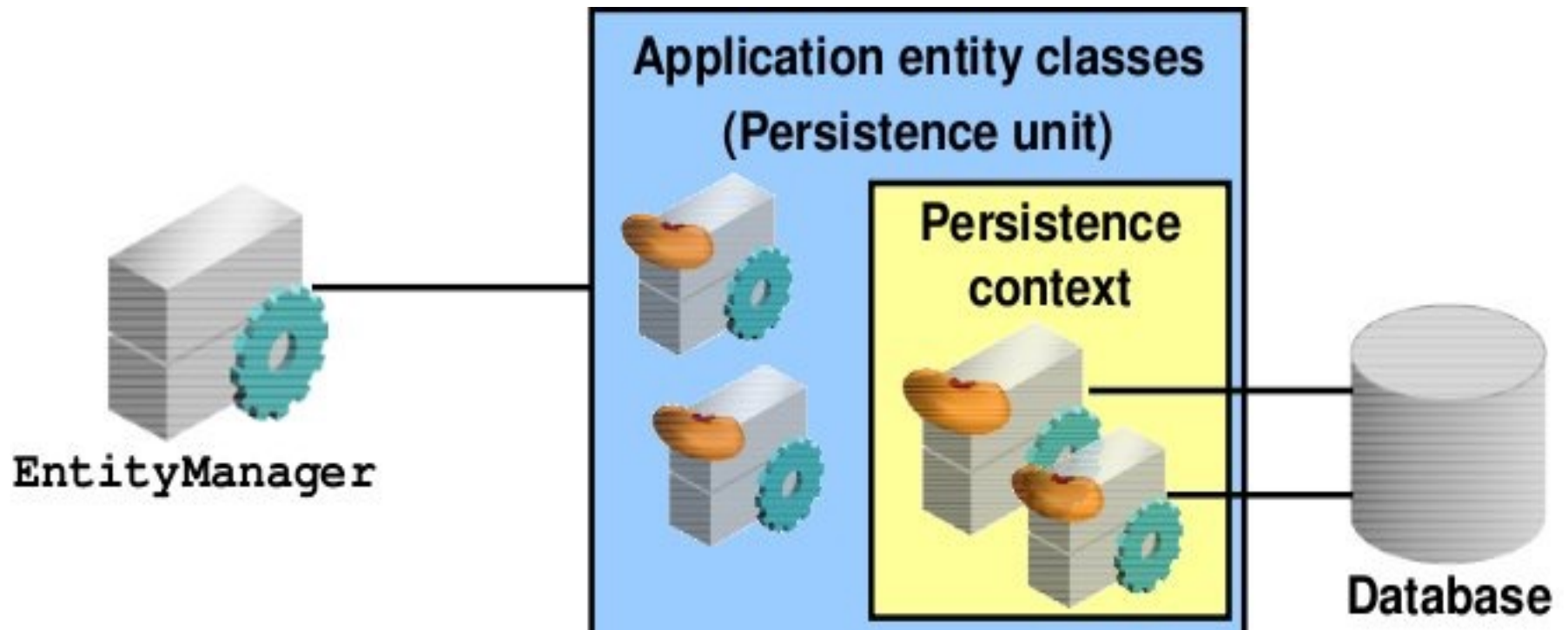
**JAVA™**

**JPA**

# Java Persistence API



# Entity Manager



# Configuração em propriedades

application.properties

```
spring.datasource.url=jdbc:mysql://localhost:3306/clientes
spring.datasource.username=root
spring.datasource.password=root132
spring.datasource.driver-class-name=com.mysql.jdbc.Driver

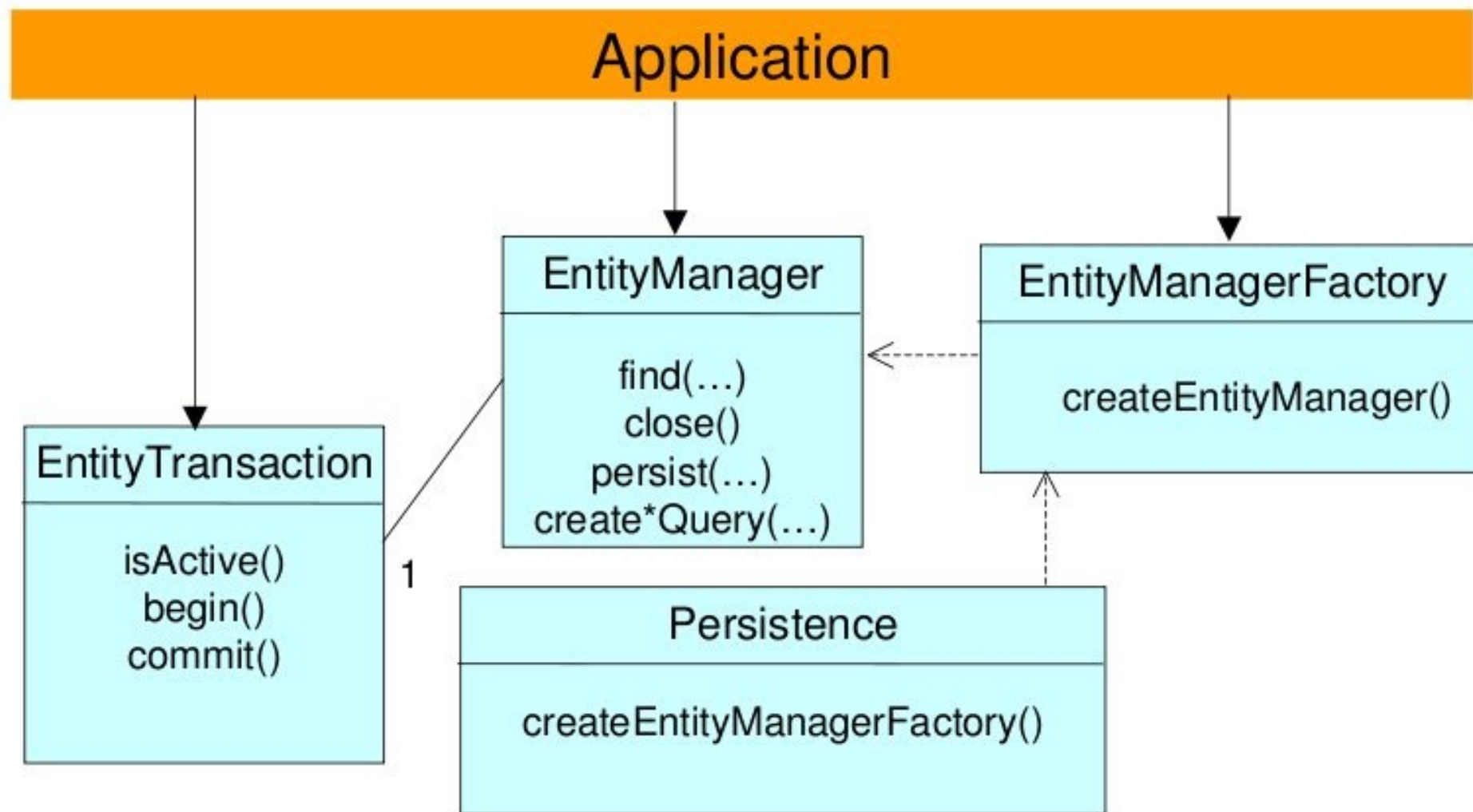
spring.jpa.hibernate.ddl-auto=none
spring.jpa.hibernate.naming.physical-strategy=org.hibernate.boot.model.naming.PhysicalNamingStrategyStandardImpl

spring.jpa.properties.hibernate.show_sql=true
spring.jpa.properties.hibernate.format_sql=true
spring.jpa.properties.hibernate.use_sql_comments=true
spring.jpa.properties.hibernate.dialect=org.hibernate.dialect.MySQL5Dialect
spring.jpa.properties.hibernate.archive.autodetection=true
```

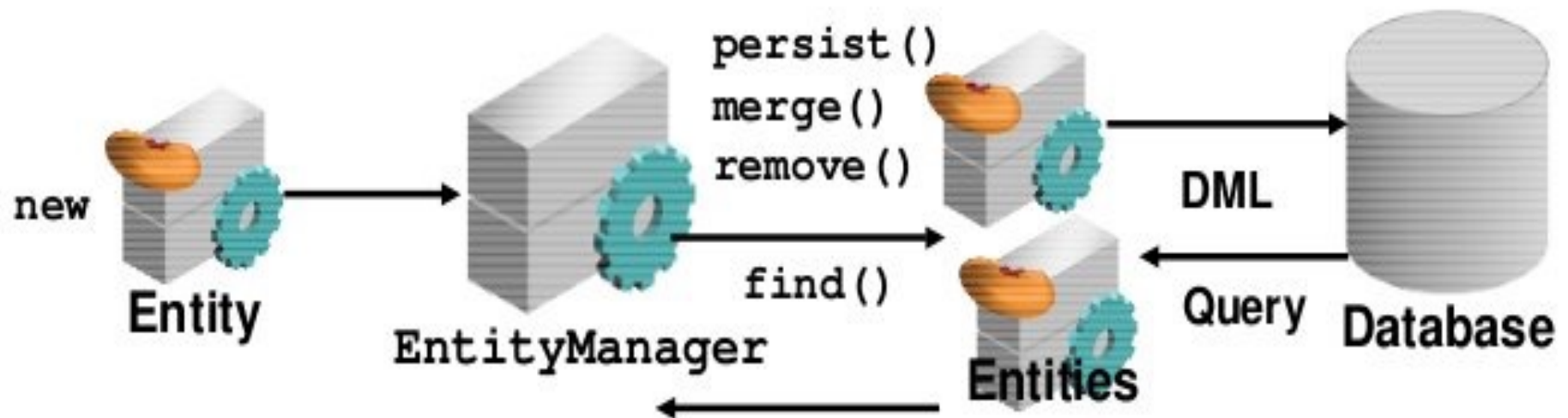
# Configuração em propriedades

application.yml

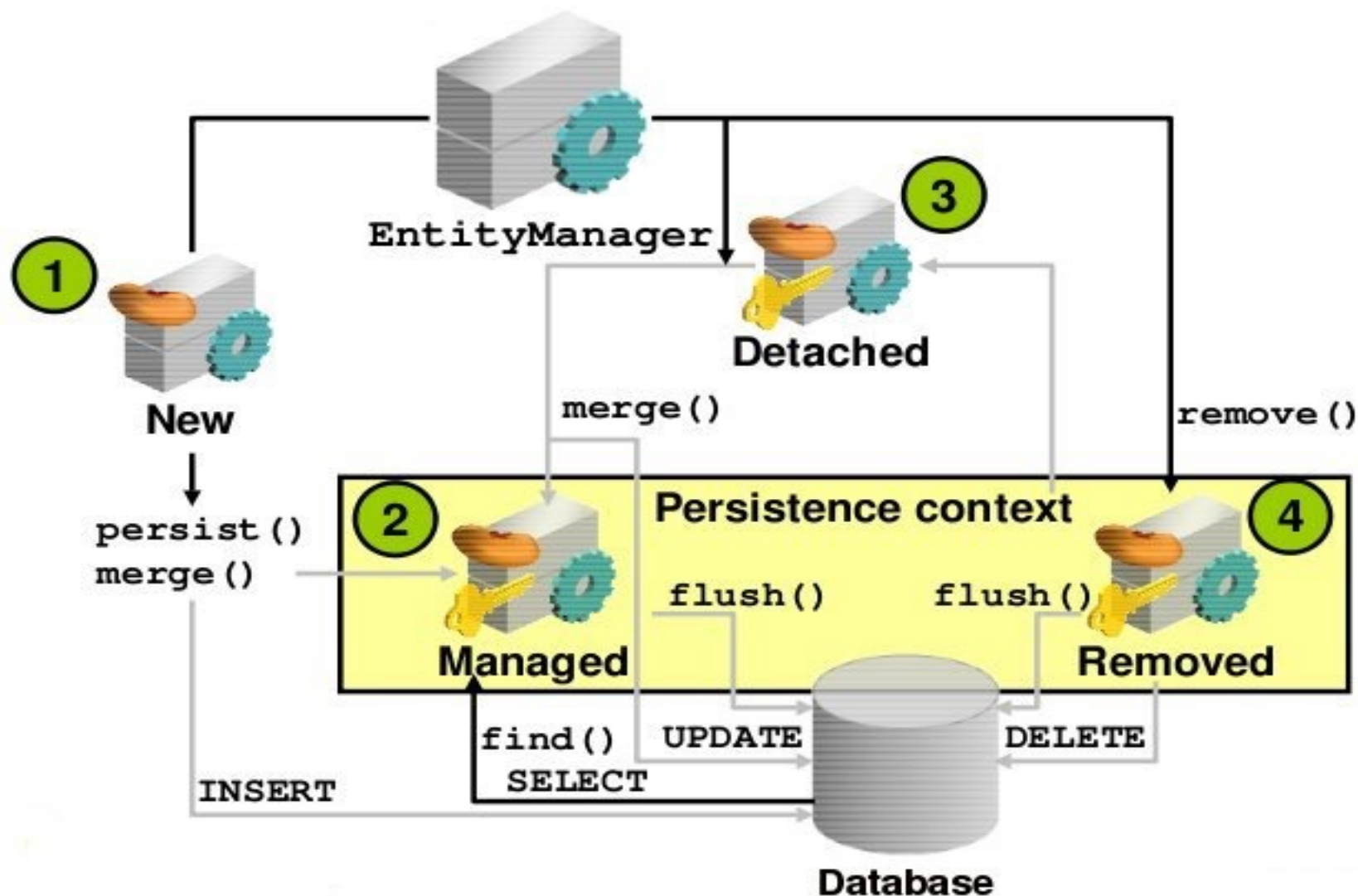
```
spring:
  datasource:
    url: "jdbc:mysql://localhost:3306/clientes"
    username: root
    password: root132
    driver-class-name: com.mysql.jdbc.Driver
  jpa:
    hibernate:
      ddl-auto: none
      naming:
        physical-strategy: org.hibernate.boot.model.naming.PhysicalNamingStrategyStandardImpl
    properties:
      hibernate:
        show_sql: true
        format_sql: true
        use_sql_comments: true
        dialect: org.hibernate.dialect.MySQL5InnoDBDialect
      archive:
        autodetection: true
```



# Persistindo um Objeto



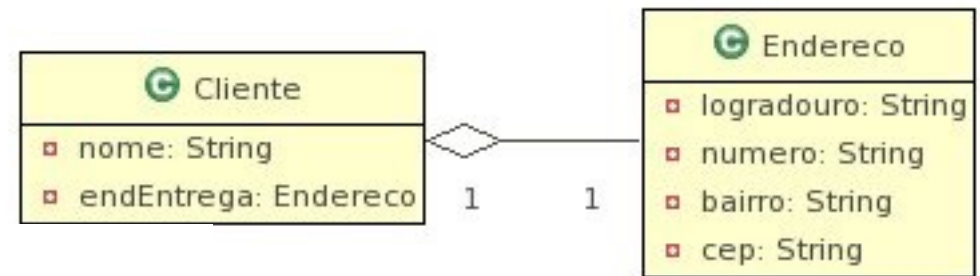




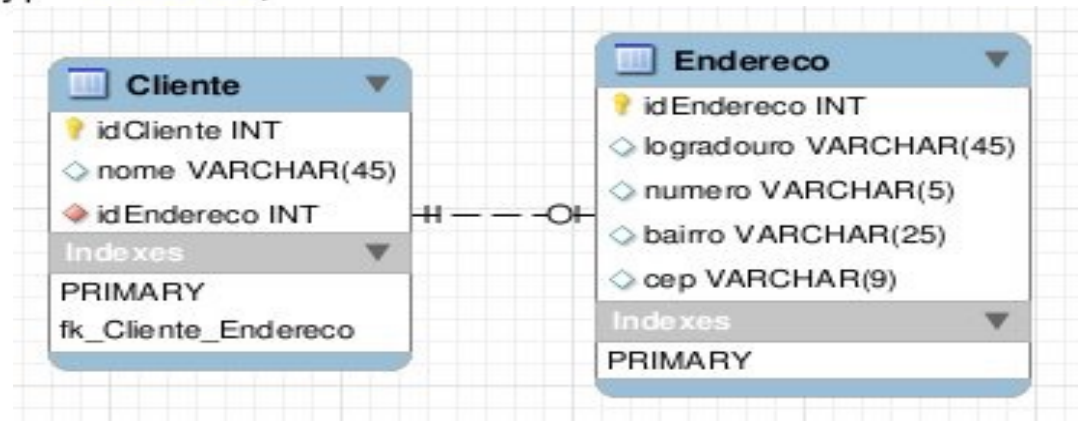


# Relacionamento 1:1 unidirecional

```
@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;
```



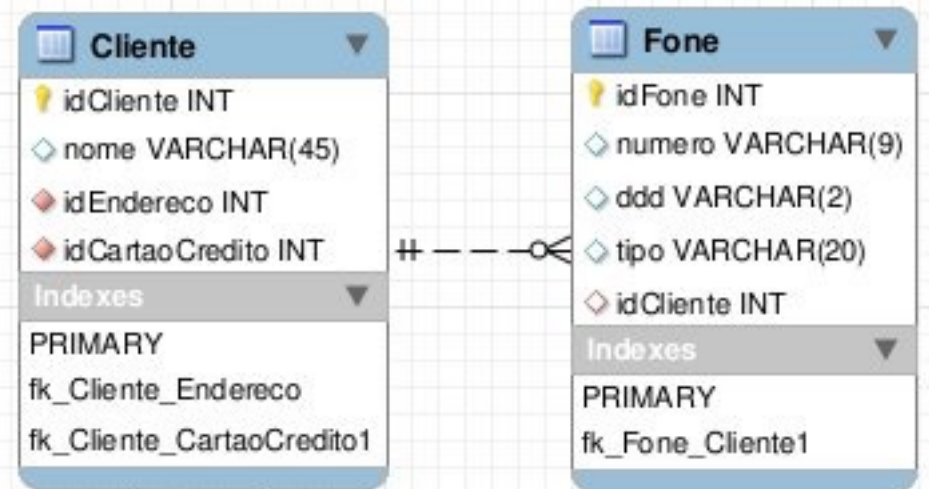
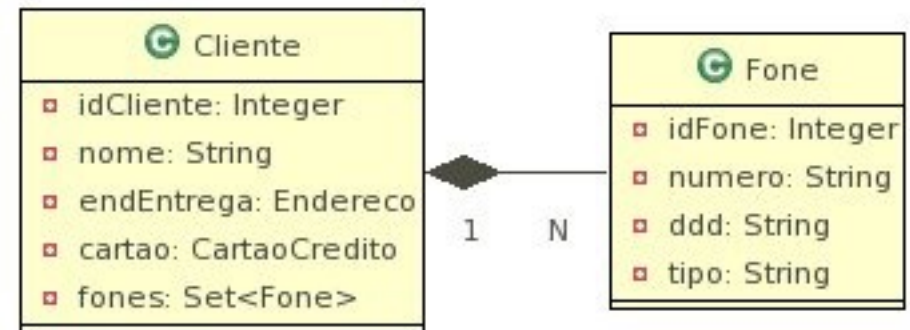
```
@Entity
public class CartaoCredito implements Serializable {
    @Id
    @GeneratedValue(strategy=GenerationType.IDENTITY)
    private Integer idCartaoCredito;
    @Temporal(TemporalType.DATE)
    private Date dataExpiracao;
    private String numero;
    private String nome;
    private String organizacao;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

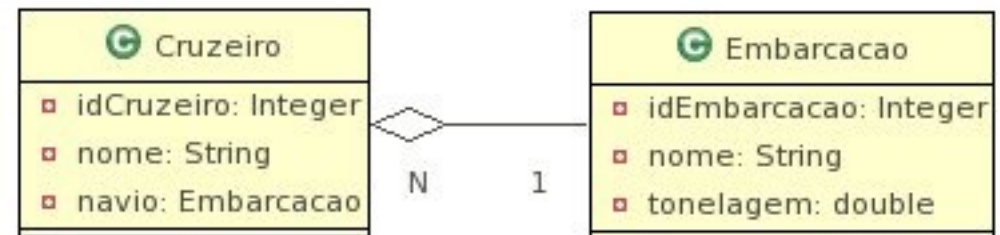
```
@Entity
public class Fone implements Serializable {
    @Id
    @GeneratedValue(strategy=GenerationType.IDENTITY)
    private Integer idFone;
    private String numero;
    private String ddd;
    private String tipo;
}
```



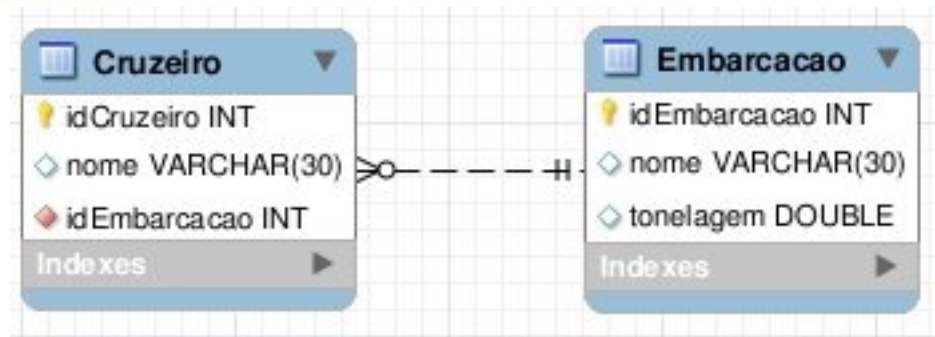


# Relacionamento N:1 unidirecional

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

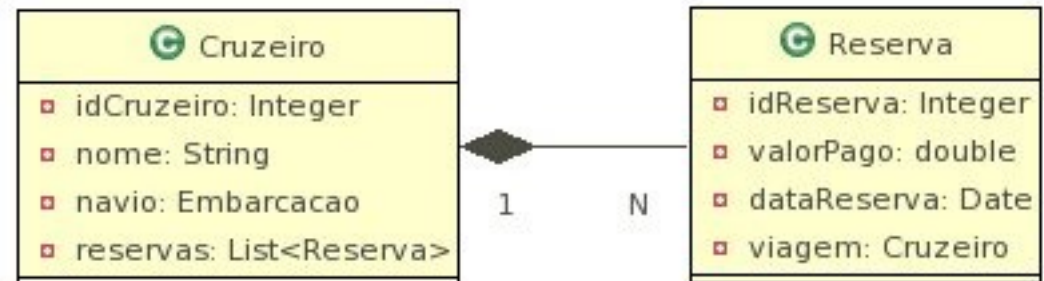


```
@Entity
public class Embarcacao implements Serializable {
    @Id
    @GeneratedValue(strategy=GenerationType.IDENTITY)
    private Integer idEmbarcacao;
    private String nome;
    private double tonelagem;
}
```

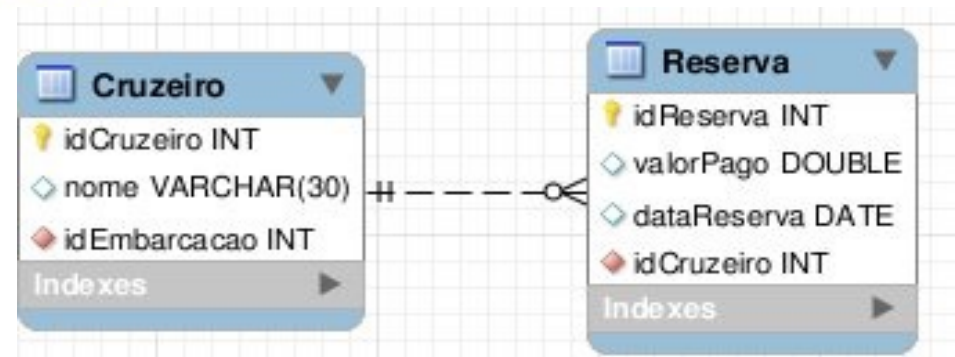


# Relacionamento 1:N bidirecional

```
@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;
}
```



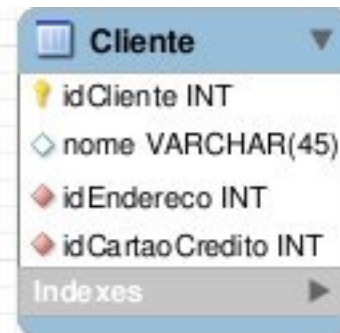
# Relacionamento N:N bidirecional

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



N N

```
@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>();
}
```

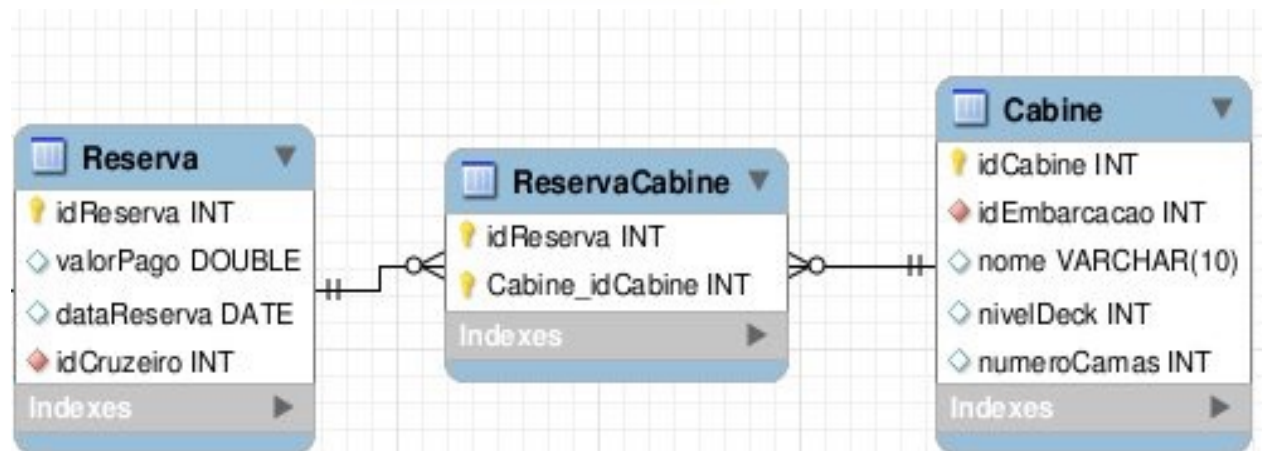
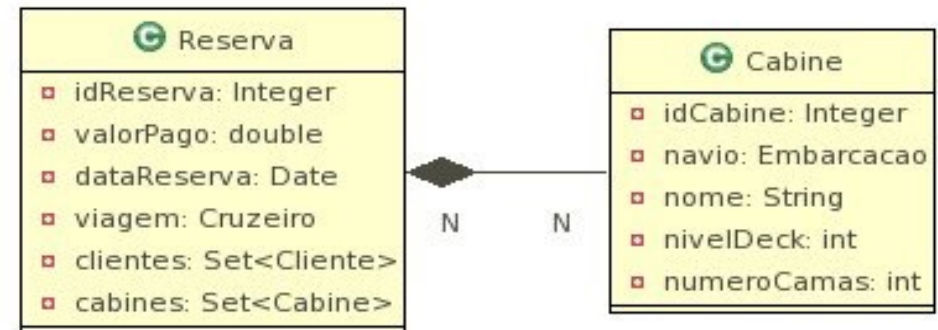




# Relacionamento N:N unidirecional

```
@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;
}
```



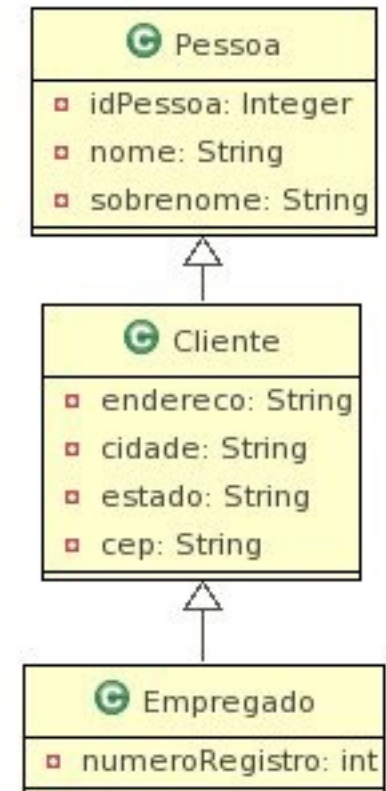


# Herança "Single Table"

```
@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;
```

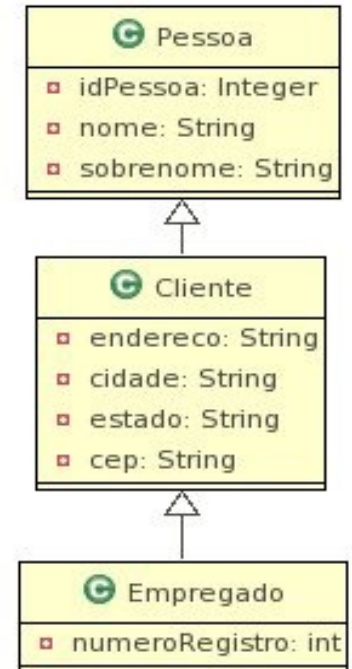


# Herança “Table per Class”

```
@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;
```



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

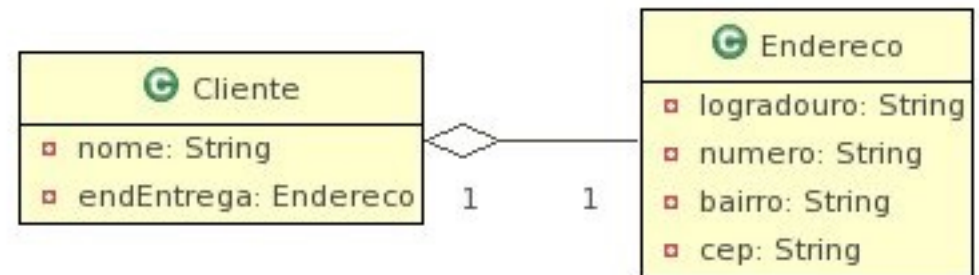
```
@Entity
@PrimaryKeyJoinColumn(name="idCliente")
public class Cliente extends Pessoa {
    private String endereco;
    private String cidade;
    private String estado;
    private String cep;
```

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





```
@Entity
public class Cliente implements Serializable {
    @Id
    @GeneratedValue(strategy=GenerationType.IDENTITY)
    private Integer idCliente;
    private String nome;
    @Embedded
    private Endereco endEntrega;
}
```



```
@Embeddable
public class Endereco implements Serializable {
    private String logradouro;
    private String numero;
    private String bairro;
    private String cep;
}
```

