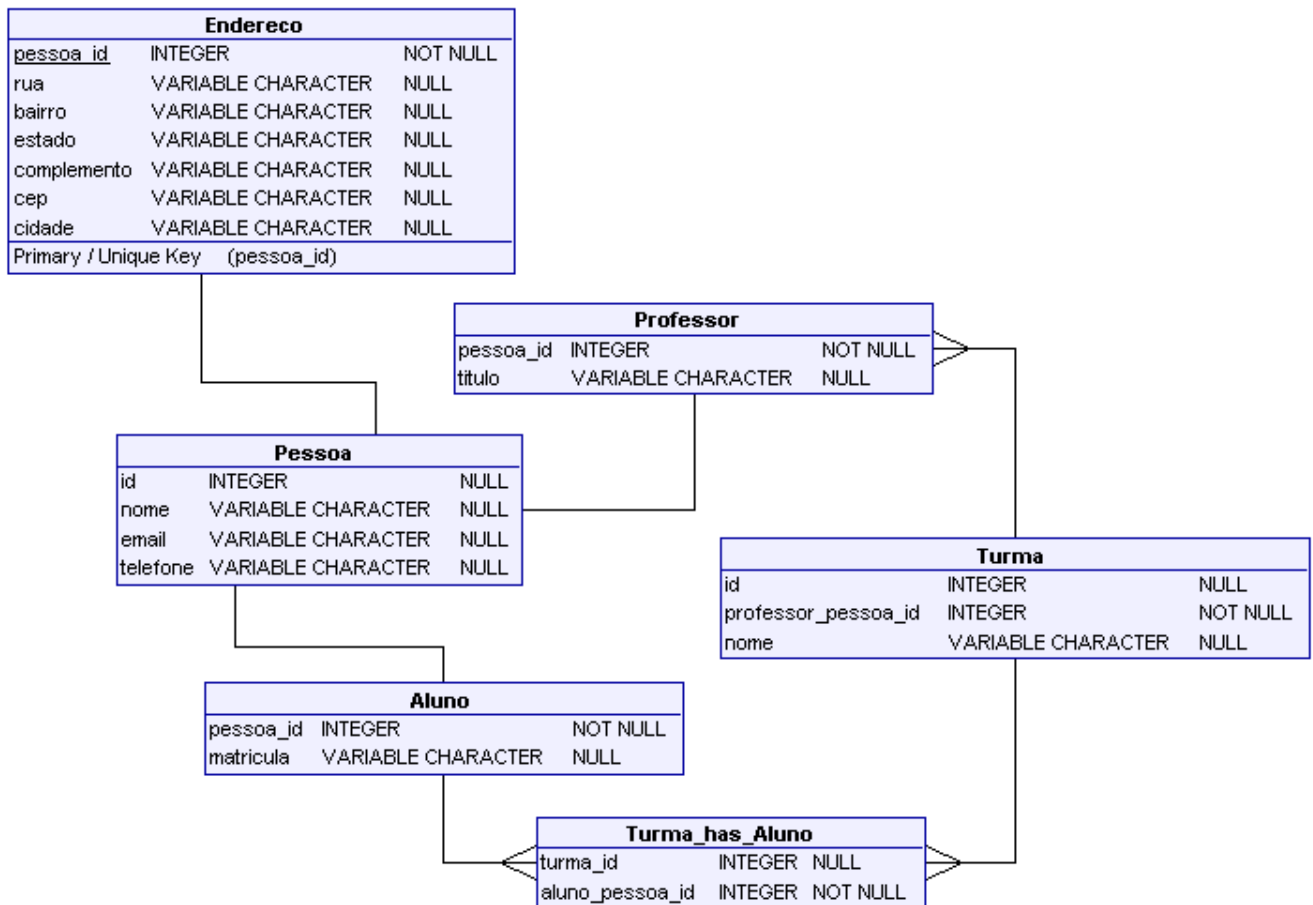


Desvendando o Hibernate

Passos Iniciais

1. Repetir os passos do tutorial "CRUD com Hibernate"
2. Adicionar o driver JDBC do banco

Esquematisando



Fontes dos Arquivos

WEB-INF\classes\hibernate.cfg.xml

```
<?xml version='1.0' encoding='utf-8'?>
<!DOCTYPE hibernate-configuration PUBLIC
    "-//Hibernate/Hibernate Configuration DTD 3.0//EN"
    "http://hibernate.sourceforge.net/hibernate-configuration-3.0.dtd">

<hibernate-configuration>
  <session-factory>
    <property name="hibernate.connection.driver_class">org.postgresql.Driver</property>
    <property
name="hibernate.connection.url">jdbc:postgresql://127.0.0.1:5432/basecurso</property>
    <property name="hibernate.connection.username">postgres</property>
    <property name="hibernate.connection.password">admin</property>
    <property name="connection.pool_size">1</property>
    <property name="dialect">org.hibernate.dialect.PostgreSQLDialect</property>
    <property name="cache.provider_class">org.hibernate.cache.NoCacheProvider</property>
    <property name="show_sql">true</property>
    <property name="hibernate.hbm2ddl.auto">create</property> <!-- update -->
    <!-- Mapeamentos -->
    <mapping resource="Pessoa.hbm.xml" />
    <mapping resource="Aluno.hbm.xml" />
    <mapping resource="Professor.hbm.xml" />
    <mapping resource="Endereco.hbm.xml" />
    <mapping resource="Turma.hbm.xml" />
  </session-factory>
</hibernate-configuration>
```

```
</hibernate-configuration>
```

WEB-INF\classes\Pessoa.hbm.xml

```
<?xml version='1.0' encoding='utf-8'?>
<!DOCTYPE hibernate-mapping
PUBLIC "-//Hibernate/Hibernate Mapping DTD 3.0//EN"
"http://www.hibernate.org/dtd/hibernate-mapping-3.0.dtd">

<hibernate-mapping>
  <class name="mapa.Pessoa">
    <id name="id"><generator class="increment" /></id>
    <property name="nome" />
    <property name="telefone" />
    <property name="email" />
    <one-to-one
      name="endereco"
      class="mapa.Endereco"
      cascade="save-update" />
    </class>
  </hibernate-mapping>
```

WEB-INF\classes\Aluno.hbm.xml

```
<?xml version='1.0' encoding='utf-8'?>
<!DOCTYPE hibernate-mapping
PUBLIC "-//Hibernate/Hibernate Mapping DTD 3.0//EN"
"http://www.hibernate.org/dtd/hibernate-mapping-3.0.dtd">

<hibernate-mapping>
  <joined-subclass name="mapa.Aluno" extends="mapa.Pessoa">
    <key column="Pessoa_id" />
    <property name="matricula" />
    <set name="turmas" table="Turma_has_Aluno" inverse="true">
      <key column="Aluno_Pessoa_id"/>
      <many-to-many class="mapa.Turma" column="Turma_id" />
    </set>
  </joined-subclass>
</hibernate-mapping>
```

WEB-INF\classes\Professor.hbm.xml

```
<?xml version='1.0' encoding='utf-8'?>
<!DOCTYPE hibernate-mapping
PUBLIC "-//Hibernate/Hibernate Mapping DTD 3.0//EN"
"http://www.hibernate.org/dtd/hibernate-mapping-3.0.dtd">

<hibernate-mapping>
  <joined-subclass name="mapa.Professor" extends="mapa.Pessoa">
    <key column="Pessoa_id" />
    <property name="titulo" />
    <set name="turmas" inverse="true">
      <key column="Pessoa_Professor_id"/>
      <one-to-many class="mapa.Turma" />
    </set>
  </joined-subclass>
</hibernate-mapping>
```

WEB-INF\classes\Endereco.hbm.xml

```
<?xml version='1.0' encoding='utf-8'?>
<!DOCTYPE hibernate-mapping
PUBLIC "-//Hibernate/Hibernate Mapping DTD 3.0//EN"
"http://www.hibernate.org/dtd/hibernate-mapping-3.0.dtd">

<hibernate-mapping>
  <class name="mapa.Endereco">
    <id name="id" column="pessoa_id">
      <generator class="foreign"><param name="property">pessoa</param></generator>
    </id>
    <property name="rua" />
  </class>
</hibernate-mapping>
```

```

    <property name="bairro" />
    <property name="complemento" />
    <property name="cidade" />
    <property name="estado" />
    <property name="cep" />
    <one-to-one name="pessoa" class="mapa.Pessoa" constrained="true" />
  </class>
</hibernate-mapping>

```

WEB-INF\classes\Turma.hbm.xml

```

<?xml version='1.0' encoding='utf-8'?>
<!DOCTYPE hibernate-mapping
  PUBLIC "-//Hibernate/Hibernate Mapping DTD 3.0//EN"
  "http://www.hibernate.org/dtd/hibernate-mapping-3.0.dtd">

<hibernate-mapping>
  <class name="mapa.Turma">
    <id name="id"><generator class="increment" /></id>
    <property name="nome" />
    <many-to-one
      name="professor"
      class="mapa.Professor"
      column="Professor_Pessoa_id" />
    <set name="alunos" table="Turma_has_Aluno">
      <key column="Turma_id" />
      <many-to-many class="mapa.Aluno" column="Aluno_Pessoa_id" />
    </set>
  </class>
</hibernate-mapping>

```

mapa\Pessoa.java

```

package mapa;

public class Pessoa {

    private Integer id;
    private String nome;
    private String telefone;
    private String email;
    private Endereco endereco;

    public Integer getId() { return id; }
    public void setId(Integer id) { this.id = id; }
    public String getNome() { return nome; }
    public void setNome(String nome) { this.nome = nome; }
    public String getTelefone() { return telefone; }
    public void setTelefone(String telefone) { this.telefone = telefone; }
    public String getEmail() { return email; }
    public void setEmail(String email) { this.email = email; }
    public Endereco getEndereco() { return endereco; }
    public void setEndereco(Endereco endereco) { this.endereco = endereco; }
}

```

mapa\Aluno.java

```

package mapa;

import java.util.List;

public class Aluno extends Pessoa {

    private String matricula;
    private List<Turma> turmas;

    public String getMatricula() { return matricula; }
    public void setMatricula(String matricula) { this.matricula = matricula; }
    public List<Turma> getTurmas() { return turmas; }
    public void setTurmas(List<Turma> turmas) { this.turmas = turmas; }
}

```

mapa\Professor.java

```
package mapa;

import java.util.List;

public class Professor extends Pessoa {

    private String titulo;
    private List<Turma> turmas;

    public String getTitulo() { return titulo; }
    public void setTitulo(String titulo) { this.titulo = titulo; }
    public List<Turma> getTurmas() { return turmas; }
    public void setTurmas(List<Turma> turmas) { this.turmas = turmas; }
}
```

mapa\Endereco.java

```
package mapa;

public class Endereco {

    private Integer id;
    private String rua;
    private String bairro;
    private String complemento;
    private String cidade;
    private String estado;
    private String cep;
    private Pessoa pessoa;

    public Integer getId() { return id; }
    public void setId(Integer id) { this.id = id; }
    public String getBairro() { return bairro; }
    public void setBairro(String bairro) { this.bairro = bairro; }
    public String getCidade() { return cidade; }
    public void setCidade(String cidade) { this.cidade = cidade; }
    public String getComplemento() { return complemento; }
    public void setComplemento(String complemento) { this.complemento = complemento; }
    public String getEstado() { return estado; }
    public void setEstado(String estado) { this.estado = estado; }
    public String getRua() { return rua; }
    public void setRua(String rua) { this.rua = rua; }
    public String getCep() { return cep; }
    public void setCep(String cep) { this.cep = cep; }
    public Pessoa getPessoa() { return pessoa; }
    public void setPessoa(Pessoa pessoa) { this.pessoa = pessoa; }
}
```

mapa\Turma.java

```
package mapa;

import java.util.List;

public class Turma {

    private Integer id;
    private String nome;
    private Professor professor;
    private List<Aluno> alunos;

    public Integer getId() { return id; }
    public void setId(Integer id) { this.id = id; }
    public String getNome() { return nome; }
    public void setNome(String nome) { this.nome = nome; }
    public Professor getProfessor() { return professor; }
    public void setProfessor(Professor professor) { this.professor = professor; }
    public List<Aluno> getAlunos() { return alunos; }
}
```

```
public void setAlunos(List<Aluno> alunos) { this.alunos = alunos; }  
}
```

acoes\Conexao.java

```
package acoes;  
  
import org.hibernate.SessionFactory;  
import org.hibernate.cfg.Configuration;  
import org.hibernate.classic.Session;  
  
public class Conexao {  
  
    protected static SessionFactory factory;  
    protected Session session;  
  
    public Conexao() {  
        factory = new Configuration().configure().buildSessionFactory();  
    }  
  
    protected void conectar() throws Throwable {  
        session = factory.openSession();  
        session.beginTransaction();  
    }  
    protected void desconectar() throws Throwable {  
        session.getTransaction().commit();  
        session.close();  
    }  
}
```

acoes\Executar.java

```
package acoes;  
  
import mapa.Aluno;  
import mapa.Endereco;  
import mapa.Pessoa;  
  
public class Executar extends Conexao {  
    public String getComando() throws Exception {  
        try {  
            conectar();  
            Aluno aluno = new Aluno();  
            aluno.setNome("Fernando");  
            aluno.setTelefone("32442510");  
            aluno.setEmail("fernando.anselmo@dfjug.org");  
            aluno.setMatricula("12345");  
            session.save(aluno);  
            Endereco endereco = new Endereco();  
            endereco.setPessoa((Pessoa)aluno);  
            endereco.setRua("SQN 311 B1 L Apt 306");  
            endereco.setBairro("Asa Norte");  
            endereco.setComplemento("");  
            endereco.setCidade("Brasília");  
            endereco.setEstado("DF");  
            endereco.setCep("70754120");  
            session.save(endereco);  
            desconectar();  
            return "sucesso";  
        } catch (Throwable e) {  
            return e.getMessage();  
        }  
    }  
}
```

Mesmo Trabalho com o Annotations

WEB-INF\classes\hibernate.cfg.xml

```
<...>
  <!-- Mapeamentos -->
  <mapping class="mapa.Pessoa" />
  <mapping class="mapa.Aluno" />
  <mapping class="mapa.Professor" />
  <mapping class="mapa.Endereco" />
  <mapping class="mapa.Turma" />
</session-factory>
</hibernate-configuration>
```

mapa\Pessoa.java

```
package mapa;

import javax.persistence.CascadeType;
import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.Id;
import javax.persistence.Inheritance;
import javax.persistence.InheritanceType;
import javax.persistence.OneToOne;

@Entity
@Inheritance(strategy=InheritanceType.JOINED)
public class Pessoa {

    @Id
    @GeneratedValue
    @Column(name = "Pessoa_id")
    private Integer id;
    @Column(nullable = false, length = 80)
    private String nome;
    @Column(nullable = false, length = 8)
    private String telefone;
    @Column(nullable = false, length = 80)
    private String email;
    @OneToOne(cascade = CascadeType.ALL)
    private Endereco endereco;

    << Métodos get/set >>
}
```

mapa\Aluno.java

```
package mapa;

import java.util.List;

import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.ManyToOne;

@Entity
public class Aluno extends Pessoa {

    @Column(nullable = true, length = 6)
    private String matricula;
    @ManyToOne(mappedBy="alunos")
    private List<Turma> turmas;

    << Métodos get/set >>
}
```

mapa\Professor.java

```
package mapa;
```

```

import java.util.List;

import javax.persistence.CascadeType;
import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.OneToMany;

@Entity
public class Professor extends Pessoa {

    @Column(nullable = true, length = 80)
    private String titulo;

    @OneToMany(cascade = CascadeType.ALL, mappedBy="professor")
    private List<Turma> turmas;

    << Métodos get/set >>
}

```

mapa\Endereco.java

```

package mapa;

import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.Id;

@Entity
public class Endereco {

    @Id
    @GeneratedValue
    private Integer id;
    @Column(nullable = true, length = 60)
    private String rua;
    @Column(nullable = true, length = 60)
    private String bairro;
    @Column(nullable = true, length = 80)
    private String complemento;
    @Column(nullable = true, length = 60)
    private String cidade;
    @Column(nullable = true, length = 2)
    private String estado;
    @Column(nullable = true, length = 8)
    private String cep;

    << Métodos get/set >>
}

```

mapa\Turma.java

```

package mapa;

import java.util.List;

import javax.persistence.CascadeType;
import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.Id;
import javax.persistence.JoinTable;
import javax.persistence.JoinColumn;
import javax.persistence.ManyToMany;
import javax.persistence.ManyToOne;

@Entity
public class Turma {

    @Id

```

```

@GeneratedValue
@Column(name = "Turma_id")
private Integer id;
@Column(nullable = true, length = 80)
private String nome;

@ManyToOne
@JoinColumn(name = "Professor_Pessoa_id")
private Professor professor;

@ManyToMany(cascade = CascadeType.ALL)
@JoinTable(name = "Turma_has_Aluno",
    joinColumns = { @JoinColumn(name = "Turma_Aluno_id") },
    inverseJoinColumns = { @JoinColumn(name = "Pessoa_id") }
)
private List<Aluno> alunos;

<< Métodos get/set >>
}

```