Tutorial JPA em ambiente Eclipse

Antes de iniciar execute o script do banco de dados no SQLYOG ou outra ferramenta de sua preferência

1-Selecione a perspectiva Java JPA: window, open perspective, other, JPA. Crie um novo projeto JPA. Para tal vá a File, New, JPA Project.

PA Project			ID
Configure JPA proje	ect settings.		
Project na <u>m</u> e: TRA	ABPEDENT		
Project location			
Use <u>d</u> efault loc	ation		
Location: C:\prog	jjava\TESTE\helios\TRABPEDENT		Browse
Target r <u>u</u> ntime			
GlassFish Server O	pen Source Edition 3 (Java EE 6)	-	New <u>R</u> untime
Configuration			
			1933 - 5955
Default Configurat A good starting po EE 6) runtime, Add	tion for GlassFish Server Open Source Edition oint for working with GlassFish Server Open S litional facets can later be installed to add ne	Sourc w fu	Mod <u>i</u> fy e Edition 3 (Java nctionality to
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2-Defina a pasta onde o projeto será salvo e as outras opções deixe-as como na figura acima .

Clique next e na próxima tela, next novamente. A tela exibida será essa:

PA Facet	IPA
Configure JPA settings.	
<u>P</u> latform	
EclipseLink 2.1.x	•
JPA implementation	
Type: User Library	•
🔲 🛋 Apache Tomcat 7.0	>
📝 🛋 EclipseLink 2.1.0 - Helios	= 😢
GLASFISH3	
🔲 🛋 glassfish21	T
Include libraries with this application	
Connection	
<u>C</u> onnection	
Connection <none></none>	
<u>C</u> onnection <none></none>	✓ Add connection
<u>Connection</u> <none> <u>Add driver library to build path</u></none>	▼ Add connection Connect
Connection None> Add driver library to build path Driver:	▼ <u>Add connection</u> <u>Connect</u>
Connection None> Add driver library to build path Driver: Override default catalog from connection	▼ <u>Add connection</u> <u>Connect</u> ▼
Connection None> Add driver library to build path Driver: Override default catalog from connection	▼ Add connection Connect
Connection None> Add driver library to build path Driver: Override default catalog from connection Catalog: Override default schema from connection	▼ Add connection <u>Connect</u> ▼
Connection None> Add driver library to build path Driver: Qverride default catalog from connection Catalog: Override default schema from connection	▼ Add connection <u>Connect</u> ▼
Connection Add driver library to build path Driver: Qverride default catalog from connection Catalog: Override default schema from connection Schema:	✓ Add connection <u>Connect</u> ✓
Connection None> Add driver library to build path Driver: Qverride default catalog from connection Catalog: Override default schema from connection Schema:	▼ Add connection <u>Connect</u> ▼
Connection <none> Add driver library to build path Driver: Override default catalog from connection Catalog: Override default schema from connection Schema:</none>	Add connection Connect
Connection None> Add driver library to build path Driver: Qverride default catalog from connection Catalog: Override default schema from connection Schema:	Add connection Connect

3-Se a plataforma EclipseLink não estiver disponível, clique no ícone ¹ do lado direito da tela e siga as instruções para baixá-la. Após baixar, selecione a biblioteca EclipseLink conforme acima. Em *Connection*, se não houver conexões disponíveis, clique em *AddConnection*. Na tela exibida (abaixo), selecione a conexão Mysql e dê um

nome a ela.

New Connection Profile	
Connection Profile Create a MySQL connection profile.	
<u>Connection Profile Types:</u>	
type filter text	
 DB2 for z/OS Derby Generic JDBC HSQLDB Informix Ingres MaxDB MySQL Oracle PostgreSQL SQL Server SQLite Sybase ASA Sybase ASE 	
Na <u>m</u> e:	
New MySQL	
vescription (optional):	
(?) < <u>Back</u> <u>Next ></u>	<u>F</u> inish Cancel

4-Depois pressione next e na tela seguinte (abaixo), preencha os dados do banco de dados e pressione finish.

New Connection Profile
Specify a Driver and Connection Details Select a driver from the drop-down and provide login details for the connection.
Drivers: MySQL JDBC Driver5.1.10
General Optional
D <u>a</u> tabase: database
URL: jdbc:mysql://localhost:3306/trabped
User name: root
Pass <u>w</u> ord:
Save password
<u>Connect when the wizard completes</u> <u>Iest Connection</u>
Connect every time the workbench is <u>s</u> tarted
(?) < <u>Back</u> <u>Next</u> > <u>Finish</u> Cancel

5-Se não houver nenhum driver no combobox *drivers* na tela acima, clique no ícone
"+" à direita. A seguinte série de telas mostra o que deve ser selecionado.
5.1-Dê o nome mostrado em *DriverName:*

ame/Type IAR List Properties		values.
vailable driver templates:		
Name	System Vendor	System Version
⊿ Database		
GoogleCloudSql		
MySQL JDBC Driver	MySQL	4.0
MySQL JDBC Driver	MySQL	4.1
MySQL JDBC Driver	MySQL	5.0
•		
river <u>n</u> ame:		
MySQL JDBC Driver5.1.10		
river <u>t</u> ype:		

5.2-Clique na aba JAR List. Se não houver drivers, clique em Add JAR/Zip e selecione o arquivo no local correto:

New Driver Definition	×
Specify a Driver Template and Definition Name	
Specify a driver template, then modify details in the fields below to provide a unique r list of required jars, and set any available and applicable property values.	name, a
Name/Type JAR List Properties	
Driver <u>f</u> iles:	
C:\diversos\JDBCMYSQL\mysql-connector-java-5.1.10\mysql-connector-java-5.1.1(<u>A</u> dd JAR/Zip <u>E</u> dit JAR/Zip <u>R</u> emove JAR/Zip <u>C</u> lear All
< +	
? Ок	Cancel

5.3-Vá à aba Properties e preencha os dados do banco:

ame/Type JAR List Properties	ailable and applicable property values.
Properties:	
Property	Value
General	
Connection URL	jdbc:mysql://localhost:3306/trabped
Database Name	database
Driver Class	com.mysql.jdbc.Driver
Password	
User ID	root

6-Criação das classes JPA. Clique com o botão direito sobre o nome do projeto , depois JPA Tools e em seguida Generate Entities from Tables. A tela a seguir se abre:

Generate C	ustom Entities	
Select Tab Select tables	les to generate entities from.	Q
Connection:	Mysqltrabped	-
	(Note: You must have an active connection to select schema.)	
<u>S</u> chema:	trabped	•
<u>T</u> ables:	 clientes itens_pedido pedidos produtos 	
✓ Update cla	ess list in persistence.xml	ore Defaults
?	< <u>B</u> ack <u>N</u> ext > <u>F</u> inish	Cancel

Selecione a conexão que você criou, o nome do esquema (nome do banco de dados que você criou para o trabalho, que deve ser *trabped*) e depois selecione as tabelas cujas entities serão geradas.

7) O wizard cria todas as relacionamentos entre as tabelas, convenientemente:

Generate Custom Entities		
Table Associations Edit a table association by selecting it	and modifying the contro	ols in the editing panel.
Table <u>a</u> ssociations		
* Each pedidos has many itens_pedido. * Each produtos has many itens_pedido.	1 ▶ ि pedid 1 ▶ ि produ	ios 👘
*	1 ► 🔂 cliente	es
? < <u>B</u> a	ck <u>N</u> ext >	<u>F</u> inish Cancel

8-Continue pressionando Next na sequência de telas. Atente para as opções de geração:

Entity access: Como Campo (Field) ou propriedade (Property)

Associations Fetch (como os dados são retornados): Eager (todos de uma vez, mais rápido o acesso mas pode consumir muita memória) Lazy (por demanda, mais lento porém consome menos memória).

Collection properties type: em relações 1:n, o lado n pode ser gerado como set ou list.

Generate Cust	tom Entities				
Customize Defaults					
Optionally customize aspects of entities that will be generated by default from database tables. A Java package should be specified.					
Mapping defaults					
Key generator:		auto	•		
Sequence <u>n</u> am	Sequence <u>n</u> ame:				
You can use the patterns \$table and/or \$pk in the sequence name These patterns will be replaced by the table name and the primar column name when a table mapping is generated.			uence name. the primary key		
Entity <u>a</u> ccess:		● <u>F</u> ield ◎ <u>P</u> roperty			
Associations fe	etch:				
Collection prop	perties <u>t</u> ype:	⊚ java.util.Setౖ			
🔲 Always gen	erate option	al JPA annotations and DDL parameters			
Domain java c	lass]		
Source fol <u>d</u> er:	TRABPEDE	NT/src	Br <u>o</u> wse		
Pac <u>k</u> age:	model		Bro <u>w</u> se		
Superclass:			Brows <u>e</u>		
Interfaces:	🛈 java.io.	Serializable	<u>A</u> dd		
		[Remove		
?		< <u>B</u> ack <u>N</u> ext > <u>Finish</u>	Cancel		

Generate Custon	n Entities	
Customize Indivi	dual Entities	
Tables and column ▷ itens ▷ itens_pedia ▷ itens_pedia ▷ itens ▷ itens ▷ itens ▷ itens	s	
Mapping default	s	
<u>C</u> lass name:	Produto	
Key generator:	auto	•
Sequence <u>n</u> ame:	You can use the patterns \$table and/or \$pk in the sequence name. These patterns will be replaced by the table name and the primary column name when a table mapping is generated.	key
Entity <u>a</u> ccess:		
Domain java cla	ss	
Superclass: Interfaces:	java.io.Serializable	Add
?	< <u>B</u> ack <u>N</u> ext > <u>Finish</u>	Cancel

9-Abrir o arquivo persistence.xml (você vai encontrá-lo dentro na árvore do projeto, dentro de JPA Content) e incluir as seguintes linhas dentro de <persistence-unit> antes de </persistence-unit>

</properties>

10-Crie uma classe de nome TesteEntidades e "cole" todo o código abaixo nela. Em seguida execute essa classe clicando com o botão direito sobre o nome da mesma, em seguida *Run as* e depois *Java Application*.

package model; import java.util.ArrayList; import java.util.Date; import java.util.List; import java.util.Set; import java.util.Iterator; import javax.persistence.EntityManager; import javax.persistence.EntityManagerFactory; import javax.persistence.EntityTransaction; import javax.persistence.Persistence;

public class TesteEntidades {
 private EntityManagerFactory emf;
 private EntityManager em;
 private String PERSISTENCE_UNIT_NAME = "TRABPEDENT";

```
/**

* @param args

*/

public static void main(String[] args) {
```

TesteEntidades hello = new TesteEntidades(); hello.initEntityManager(); hello.read(); hello.closeEntityManager();

}

private void read() {
 Pedido p = (Pedido)em.createQuery("Select p from Pedido p where
p.codped=1").getSingleResult();

```
List<ItensPedido> ip = p.getItensPedidos();
Iterator itip = ip.iterator();
while (itip.hasNext()){
ItensPedido item = (ItensPedido)itip.next();
```

```
Produto produto = item.getProduto();
           Pedido pedido = item.getPedido();
           Cliente cliente = p.getCliente();
           System.out.println ("Pedido: "+pedido.getCodped() );
           System.out.println("Data: "+pedido.getDatped());
           System.out.println("Cliente: "+cliente.getNomcli());
           System.out.println("Produto: " + produto.getNompro());
           System.out.println("Quantidade: " + item.getQtditem());
           System.out.println("Valor unitario: "+ item.getValoritem());
             }
       }
      private void initEntityManager() {
         emf =
Persistence.createEntityManagerFactory(PERSISTENCE_UNIT_NAME);
         em = emf.createEntityManager();
       }
       private void closeEntityManager() {
         em.close();
         emf.close();
       }
```

}