JPA Configuration

JPA is configured to work based on persistence.xml that includes execution attribute. Let's examine the main components and attribute definition method of persistence.xml file. First, persistence.xml file includes <persistence> tag in the upper part and can contain several <persistence-unit> in <persistence> tag.

Persistence Unit

Main entities containing Persistence Unit are as below.

Element	Description
provider	Provider class that supports entity manager
mapping-file	Mapping information file
class	Class that includes Entity class list, @Entity, @Embeddable or @MappedSuperclass
exclude-unlisted-classes	Excludes ones that not defined in class
attributes	JPA implementation attribute list

See details for Schema. Following is an example of setting file that contains the above items.

```
<persistence-unit name="HSQLMUnit" transaction-type="RESOURCE_LOCAL">

    <provider>org.hibernate.ejb.HibernatePersistence</provider>
    <class>egovframework.sample.model.bidirection.User</class>
    <exclude-unlisted-classes/>
    <attributes>
        <attribute name="hibernate.connection.driver_class" value="net.sf.log4jdbc.DriverSpy"/>
    ...
```

Hibernate Attributes

Explains the configuration information of Hiberbnate by each vendor defined under Attributes. See Hibernate site for more details.

DataSource Attributes

Hibernate processes the data access through DB through below attributes.

Attributes	Description
hibernate.connection.driver_class	Attributes to define the driver class of DB
hibernate.connection.url	Attributes to define URL of the DB
hibernate.connection.username	Attributes to define user to access DB
hibernate.connection.password	Attributes to define passwords to access DB

Following is the example of persistence.xml file that contains the attributes mentioned above.

```
<attribute name="hibernate.connection.driver_class" value="net.sf.log4jdbc.DriverSpy"/>
<attribute name="hibernate.connection.url" value="jdbc:log4jdbc:hsqldb:mem:testdb"/>
<attribute name="hibernate.connection.username" value="sa"/>
```

Generated SQL Attributes

Hibernate processes the data access through DB through below attributes.

Attribute	Description

hibernate.dialect	Typical business applications are often cluttered with repetitive resource management code
hibernate.default_schema	To avoid tying application objects to hard-coded resource lookups, Spring allows you to define resources such as a JDBC DataSource or a Hibernate SessionFactory as beans in the Spring container.
hibernate.default_catalog	Spring also offers Hibernate and JDO support, consisting of a HibernateTemplate / JdoTemplate analogous to JdbcTemplate, a HibernateInterceptor / JdoInterceptor, and a Hibernate / JDO transaction manager.

Following is the part of persistence.xml file that contains the attribute mentioned above.

```
<attribute name="hibernate.dialect" value="org.hibernate.dialect.HSQLDialect"/>
```

Following is the list of main Dialect that is provided by Hibernate

DB Type	Dialect Class
Oracle 10g	org.hibernate.dialect.Oracle10gDialect
Oracle 9i/10i	org.hibernate.dialect.Oracle9iDialect
Oracle (all versions)	org.hibernate.dialect.OracleDialect
MySQL 5.x	org.hibernate.dialect.MySQL5Dialect
MySQL 4.x, 3.x	org.hibernate.dialect.MySQLDialect
DB2	org.hibernate.dialect.DB2Dialect
Sybase 11.9.2	org.hibernate.dialect.Sybase11Dialect
Sybase Anywhere	org.hibernate.dialect.SybaseAnywhereDialect

Cache Attributes

Hibernate supports Cache through attributes below.

Attribute	Description
hibernate.cache.provider_class	Attributes to define the class of implementation that implemented cache function
hibernate.cache.use_second_level_cache	Attributes to define whether to apply 2nd Level Cache (true/false)
hibernate.cache.use_query_cache	Attributes to define whether to cache Hibernate Query (true/false)

Following is part of persistence.xml file that contains the attributes mentioned above.

```
<attribute name="hibernate.cache.use_second_level_cache" value="true"/>
<attribute name="hibernate.cache.use_query_cache" value="true"/>
<attribute name="hibernate.cache.provider_class" value="org.hibernate.cache.EhCacheProvider"/>
```

Logging Attributes

Hibernate supports logging through attributes below.

Attributes	Description
hibernate.show_sql	Attributes to define whether to leave generated SQL to the consol (true/false)
hibernate.format_sql	Attributes to define whether to leave generated SQL to the consol (true/false)
hibernate.use_sql_comments	Attributes to define whether to leave generated SQL to the consol

	(true/false)

Following is the part of persistence.xml file that contains the attributes mentioned above.

```
<attribute name="hibernate.show_sql" value="true"/>
<attribute name="hibernate.format_sql" value="true"/>
```

Other Attributes

Attribute Name	Description
hibernate.hbm2ddl.auto	Attribute to define whether to automatically verify, create or update DDL(validate/ update/ create/ create-drop)
hibernate.jdbc.batch_size	Hibernate performs batch processing for SQL to be executed in general. At this time, the attributes to define the number of SQL to process by batch

Following is the part of persistence.xml file that contains the attributes mentioned above.

```
<attribute name="hibernate.hbm2ddl.auto" value="create-drop"/>
<attribute name="hibernate.jdbc.batch_size" value="10" />
```