Hibernate:

* It’s an open source java persistence framework
* It perform powerful object relational mapping and query databases using HQL and SQL.

Blocks in hibernate:

* Configuration
* Session factory
* Session
* Query
* Transaction
* Persistent objects
* First level cache
* Second level cache

**Configuration:**

* Generally written in hibernate.properties or hibernate.cfg.xml.
* @configuration annotation is used to map with java application.
* Used by session factory to work with java application and database.

**Session factory:**

Any user application requests Session Factory for a session object. Session Factory uses configuration information from above listed files, to instantiates the session object appropriately.

**Session:**

This represents the interaction between the application and the database at any point of time. This is represented by the org.hibernate.Session class. The instance of a session can be retrieved from the SessionFactory bean.

**Query:**

It allows applications to query the database for one or more stored objects. Hibernate provides different techniques to query database, including NamedQuery and Criteria API.

**Transaction:**

Enables you to achieve data consistency, and rollback in case something goes unexpected.

**Persistent Object:**

These are plain old Java objects (POJOs), which get persisted as one of the rows in the related table in the database by hibernate.They can be configured in configurations files (hibernate.cfg.xml or hibernate.properties) or annotated with @Entity annotation.

First level cache:

* It’s a default cache used by hibernate session object while interacting with database.
* It is also called as session cache and caches objects within the current session.
* All requests from the Session object to the database must pass through the first-level cache or session cache.
* One must note that the first-level cache is available with the session object until the Session object is live.

**Second level cache:**

It is used to store objects across sessions. This needs to be explicitly enabled and one would be required to provide the cache provider for a second-level cache.

**HQL:**

**Hibernate query language:**

Is an object oriented query language, similar to SQL, but instead of operating on tables and columns, HQL works with persistent objects and their properties.

It is a superset of the JPQL, the Java Persistence Query Language;

**Transient object:**

Instances of persistent classes that are not currently associated with a Session. They may have been instantiated by the application and not yet persisted, or they may have been instantiated by a closed Session.