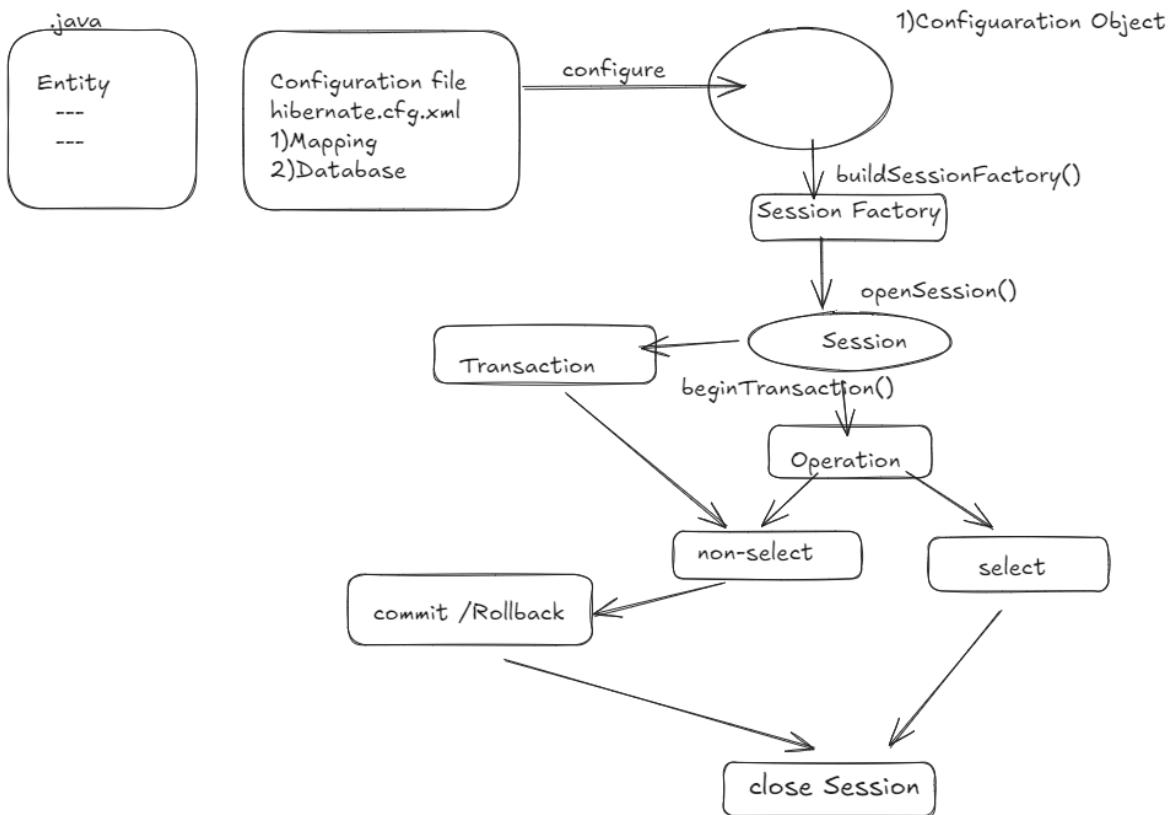


Hibernate Project Setup Architecture



Note: No transaction needed for select operation.

1. Entity Class (Java):

- Represents the Java class that needs to be persisted in the database.
- This class is mapped to a database table via configuration.

2. Configuration File (hibernate.cfg.xml):

- The central configuration file for Hibernate.
- It includes details for:
 - **Mapping:** Specifies how Java classes are mapped to database tables.
 - **Database Configuration:** Contains information like the database URL, username, and password.

3. Configuration Object:

- Loads the Hibernate configuration file.
- It initializes Hibernate using the configure() method.

4. SessionFactory:

- Created by the buildSessionFactory() method.
- It is a factory for Session objects.
- Designed to be instantiated once and used throughout the application lifecycle.

5. Session:

- The primary interface for interacting with the database.
- Obtained from the SessionFactory using openSession().
- Used to create transactions and perform database operations.

6. Transaction:

- Represents a unit of work in Hibernate.
- Managed through the beginTransaction() method.
- Operations can be either:
 - **Non-Select Operations:** Involve insert, update, or delete actions.
 - **Select Operations:** Involve querying the database to retrieve data. (Note: does not required for select query)

7. Commit/Rollback:

- After the operations are performed, the transaction must be either committed or rolled back.
- **Commit:** Saves the changes to the database.
- **Rollback:** Reverts the changes in case of an error or cancellation.

8. Close Session:

- The session should be closed after completing the operations.
- This releases the database connection and other resources.