



Introduction to Hibernate

By Rahul Barve



Introduction to Hibernate

- Hibernate is an Open Source Java Based Framework that follows ORM principles.
- It is distributed through a ZIP file that contains several library files known as JAR files.



Hibernate – Basic Features

By Rahul Barve



Hibernate – Basic Features

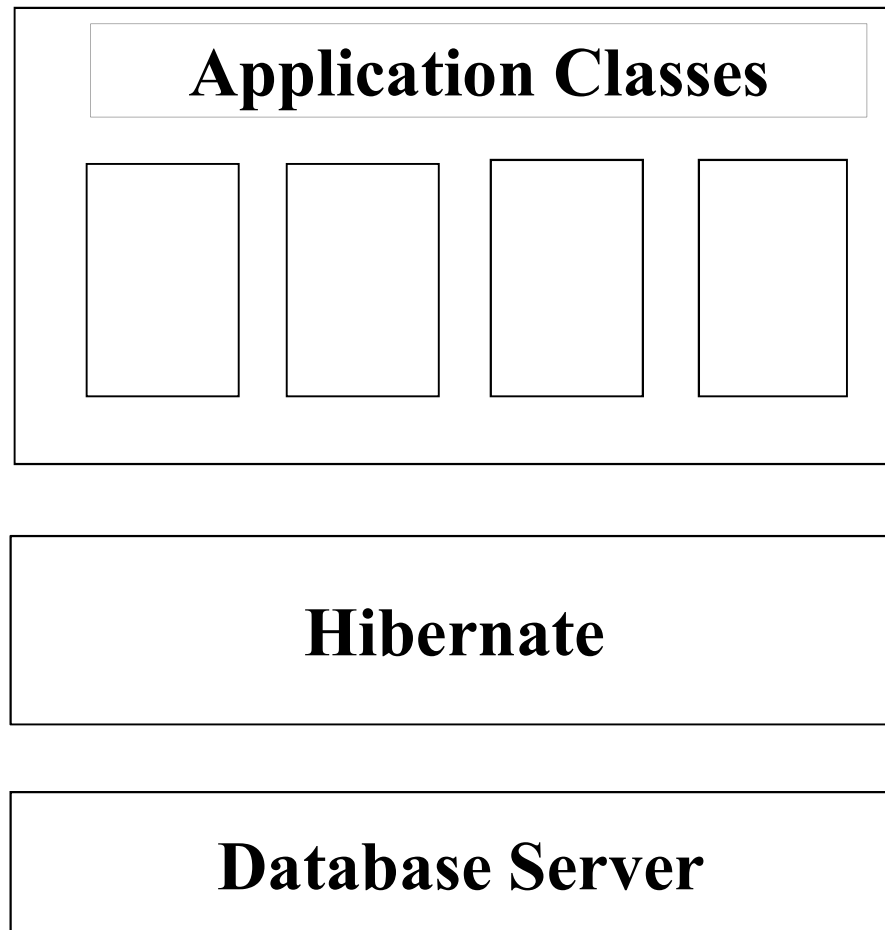
- Open source, Mature, Popular
- Vendor Independent
- Persistence for JavaBeans (POJO)
- Support for Transactions, Caching
- Support for Polymorphic Queries



Hibernate – Basic Architecture

By Rahul Barve

Hibernate – Basic Architecture



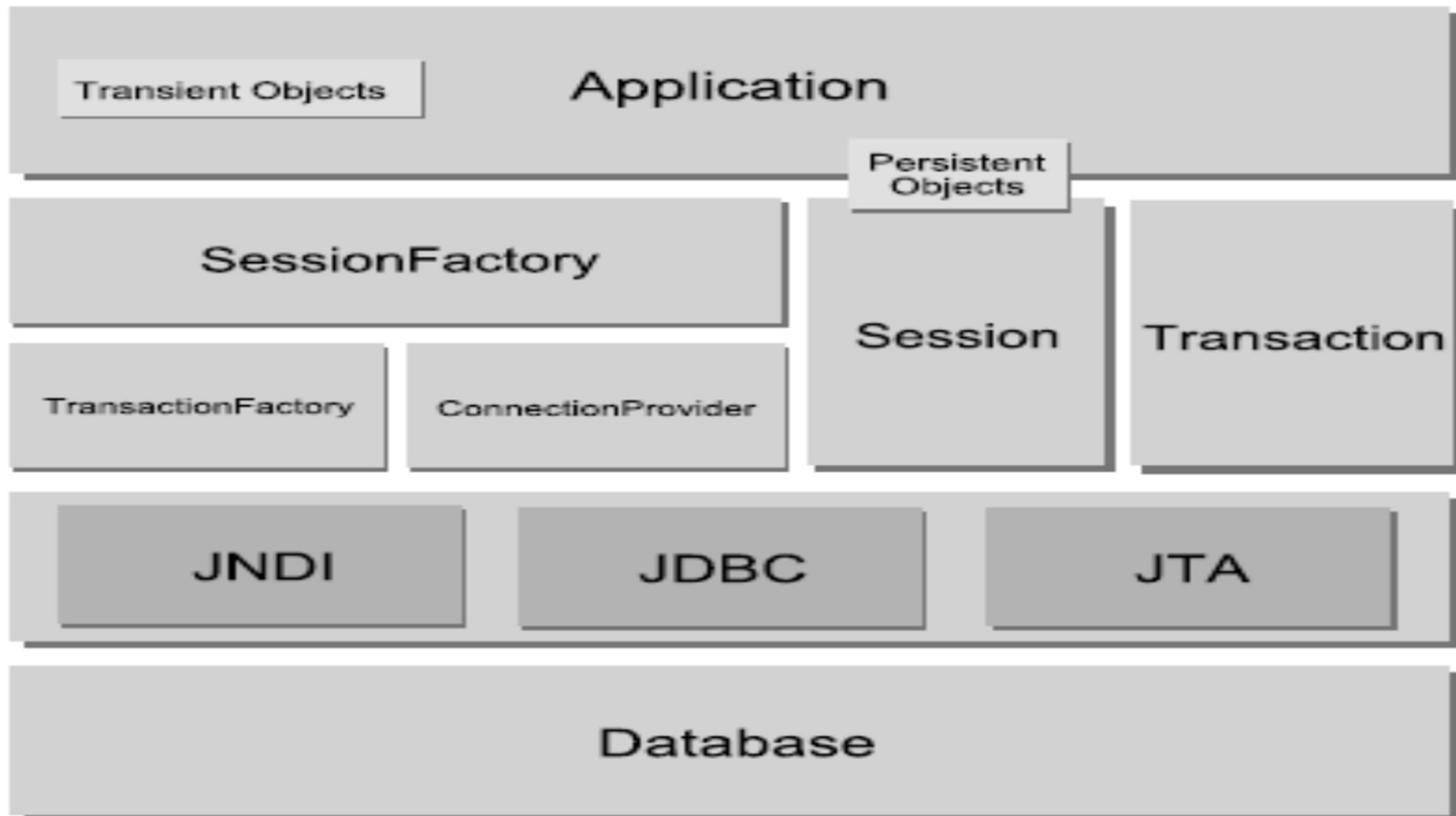
By Rahul Barve



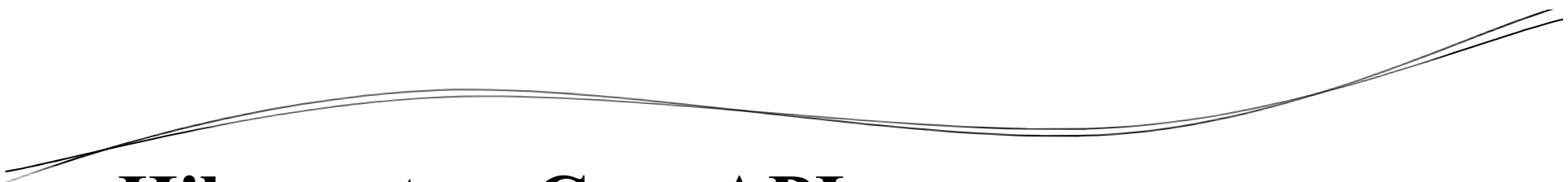
Hibernate – Core Architecture

By Rahul Barve

Hibernate – Core Architecture



By Rahul Barve



Hibernate – Core API

- Configuration
- Session
- SessionFactory
- Transaction



Configuration

By Rahul Barve



Configuration

- `org.hibernate.cfg.Configuration`
- Used to configure Hibernate based upon the configurations through `.properties` or `.xml` files or even programmatically.



Session

By Rahul Barve



Session

- `org.hibernate.Session`
- An object representing a conversation between the application and the persistent store.
- Wraps a JDBC connection.
- A client of `SessionFactory`.



Session

- A Component used to persist or load objects to/from the database.
- Used to perform basic CRUD operations.
- Provides utility methods like `save()`, `update()`, `delete()`, `load()`.



SessionFactory

By Rahul Barve



SessionFactory

- `org.hibernate.SessionFactory`
- A factory for Session and a client of `ConnectionProvider`.



SessionFactory

- Allows to instantiate `Session`
- Heavyweight Component
- Only one per application



Transaction

By Rahul Barve



Transaction

- `org.hibernate.Transaction`
- An object used by the application to specify atomic units of work.



Transaction

- Abstracts application from underlying JDBC or JTA transaction.
- Ensures that all the operations on persisted objects occur in a transaction supported by either JDBC or JTA.
- Maintains Atomicity.



ConnectionProvider

By Rahul Barve



ConnectionProvider

- `org.hibernate.connection.ConnectionProvider`
- A factory for JDBC connections.
- Abstracts application from underlying DataSource or DriverManager.



TransactionFactory

By Rahul Barve



TransactionFactory

- `org.hibernate.TransactionFactory`
- A factory for Transaction instances.