**✅ What does "makes entity persistent" mean in Hibernate?**

In Hibernate, when you **make an entity persistent**, you are:

Putting a plain Java object under the control of Hibernate's **Session** so that it becomes **associated with a row in the database**, and any changes to it will be **automatically synchronized** with the database during **flush/commit**.

**📌 Example:**

java

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Student s = new Student();

s.setName("Gaurav"); // this is a Transient object

session.persist(s); // now it's Persistent (Hibernate tracks it)

s.setName("Gaurav K."); // Hibernate notices this change

tx.commit(); // Hibernate issues UPDATE automatically

**🔄 Hibernate Lifecycle States**

| **State** | **Description** |
| --- | --- |
| **Transient** | Object is created with new, not associated with Hibernate or the DB. |
| **Persistent** | Associated with a Hibernate Session; changes are tracked and auto-saved. |
| **Detached** | Was Persistent, but Session is closed; not tracked anymore. |
| **Removed** | Scheduled for deletion using session.delete(); will be removed at commit. |

**❓ What is a Detached Object in Hibernate?**

An object becomes **Detached** when:

* It **was persistent** (i.e., managed by Hibernate), **but the session is now closed**, or
* You **evict** the object from the session manually.

**🧠 Think of it this way:**

A **detached** object is like an employee who left the company. They once worked there (were persistent), but now they're not managed anymore (not in session). You can bring them back (via merge() or update()), but they’re not being tracked right now.

**📌 Detached Object Example:**

java

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Session session1 = factory.openSession();

Student s = session1.get(Student.class, 1); // Persistent

session1.close(); // now `s` is Detached

s.setName("New Name"); // not tracked!

// Reattach to new session

Session session2 = factory.openSession();

session2.beginTransaction();

session2.update(s); // or session2.merge(s);

session2.getTransaction().commit();

**🧪 Summary:**

| **Term** | **Meaning** |
| --- | --- |
| **Persistent** | Hibernate tracks the object, auto-saves updates. |
| **Detached** | Object is no longer tracked (after session closes). |
| **Make persistent** | Call persist() or save() to put the object under Hibernate's control. |