Enterprise Java

Stateful Session Bean & Stateless Session Bean

How to create :-

⇨ Java with maven -> EJB module -> Finish

⇨ In Source Packages -> new package -> named(ejbStates)-> New -> Other -> Enterprise JavaBeans ->Session Bean -> named (StatefulBean)

⇨ If Session Bean make Stateless or Stateful according option select -> Local (if want Local Bean creation)

⇨ StatefulLocalBean , StatefulBean , StatelessBean , StatelessLocalBean

⇨ Make Servlet -> (package)ejbStatesServlets -> Client1Servlet and Client2Servlet

What is a Session Bean (EJB)?

- A Session Bean is a business logic component.

- It does not handle HTTP requests directly.

- **Types:**

  ○ **Stateless** → No client-specific state; shared by all clients.

  ○ **Stateful** → Keeps state per client (like shopping cart).

  ○ **Singleton** → One instance per application.

What is a Servlet?

- A **Servlet** is a **web component** that **handles HTTP requests and responses**.

- It sits in the **web layer** and talks directly with the client (browser, Postman, etc.).

- It can call **EJBs** to perform business logic.

⇨ **Servlet** = deals with HTTP request, prepares response (HTML, JSON, etc.).

⇨ **EJB** = performs the logic (calculation, DB access, transaction).

Why do we need both?

Think in **layers**:

- **Servlets (Web Layer)**:

    o Entry point for HTTP clients.

    o Handles GET, POST, query parameters, cookies, sessions, etc.

    o Responsible for presentation/output.

- **EJBs (Business Layer)**:

    o Encapsulate reusable **business logic**.

    o Manage transactions, concurrency, security, pooling, etc.

    o Can be reused from Servlets, REST endpoints, other EJBs, or even remote clients.

EJB = business logic, no HTTP knowledge

Servlet = web interface, talks HTTP, calls EJBs

- You need both:

- Servlet = "front desk"

- EJB = "back office"