

# Running an Embedded Tomcat Server

## Tomcat Configuration:

- **Tomcat Instance:** `new Tomcat()` initializes an embedded Tomcat server.
- **Persistent Server:** `tomcat.getServer().await()` ensures the server keeps running and listens for requests.

## HTTPServlet:

**service() Method:** Handles incoming HTTP requests and generates appropriate responses.

```
Tomcat tomcat = new Tomcat();  
tomcat.start();
```

## Persistent Server

Ensure the server keeps running:  
`tomcat.getServer().await();`

## Steps:

1. Create HelloServlet class
2. Making a Servlet by extending HttpServlet
3. Write the `service(HttpServletRequest request, HttpServletResponse response)` method.

=> For servlets, you need to send requests through a browser.

=> By default, embedded Tomcat is not running.

## In the main method

```
Tomcat tomcat=new Tomcat();  
tomcat.start();
```

```
public class App  
{  
    public static void main( String[] args ) throws LifecycleException {  
        System.out.println( "Hello World!" );  
        Tomcat tomcat = new Tomcat();  
        tomcat.start();  
    }  
}
```

After doing that, something happens.

```
Dec 14, 2023 10:57:11 AM org.apache.catalina.core.StandardService startInternal  
INFO: Starting service [Tomcat]  
Dec 14, 2023 10:57:11 AM org.apache.coyote.AbstractProtocol start  
INFO: Starting ProtocolHandler ["http-nio-8080"]  
  
Process finished with exit code 0
```

But still *localhost:8080* is not running.

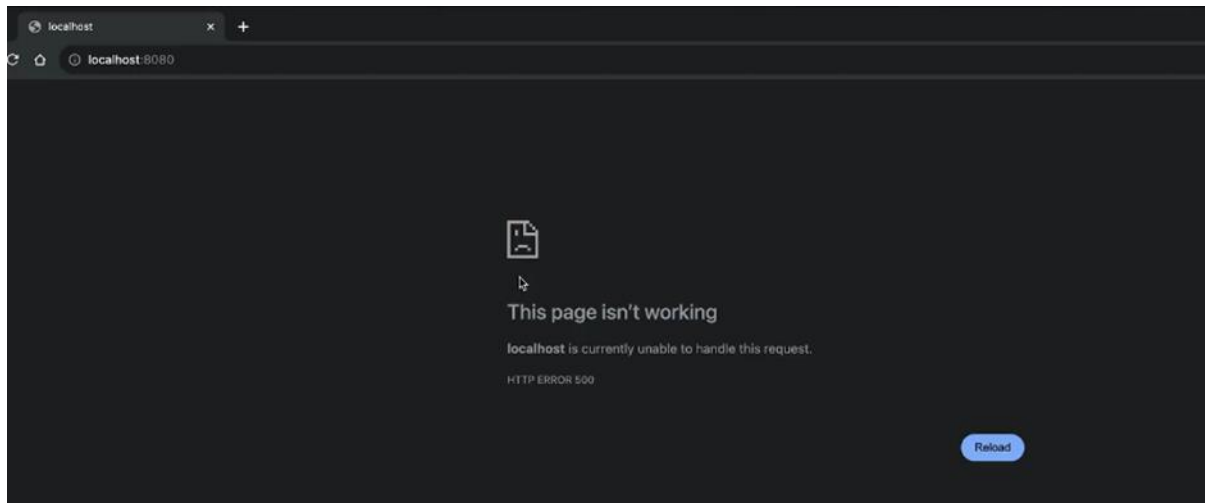
Now make Tomcat keep running.

Add `tomcat.getServer().await()`

```
public class App  
{  
    public static void main( String[] args ) throws LifecycleException {  
        System.out.println( "Hello World!" );  
        Tomcat tomcat = new Tomcat();  
        tomcat.start();  
        tomcat.getServer().await();  
    }  
}
```

```
Dec 14, 2023 10:58:09 AM org.apache.coyote.AbstractProtocol init
INFO: Initializing ProtocolHandler ["http-nio-8080"]
Dec 14, 2023 10:58:09 AM org.apache.catalina.core.StandardService startInternal
INFO: Starting service [Tomcat]
Dec 14, 2023 10:58:09 AM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["http-nio-8080"]
```

Now we found the server does not stop.



But get some different error message (not able to handle the request).

**How does Tomcat knows which page I handle?**

=> Now we do mapping, which is in the next lecture.