

**Lab Manual- H2 Database with JDBC**

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**Contributor:**

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# Objective

# Creating a Spring Boot Project

**Step 1:** Open the Spring initializr [https://start.spring.io](https://start.spring.io/).

**Step 2:** Provide the **Group** and **Artifact** name. We have provided Group name **com.bank** and Artifact **as below**

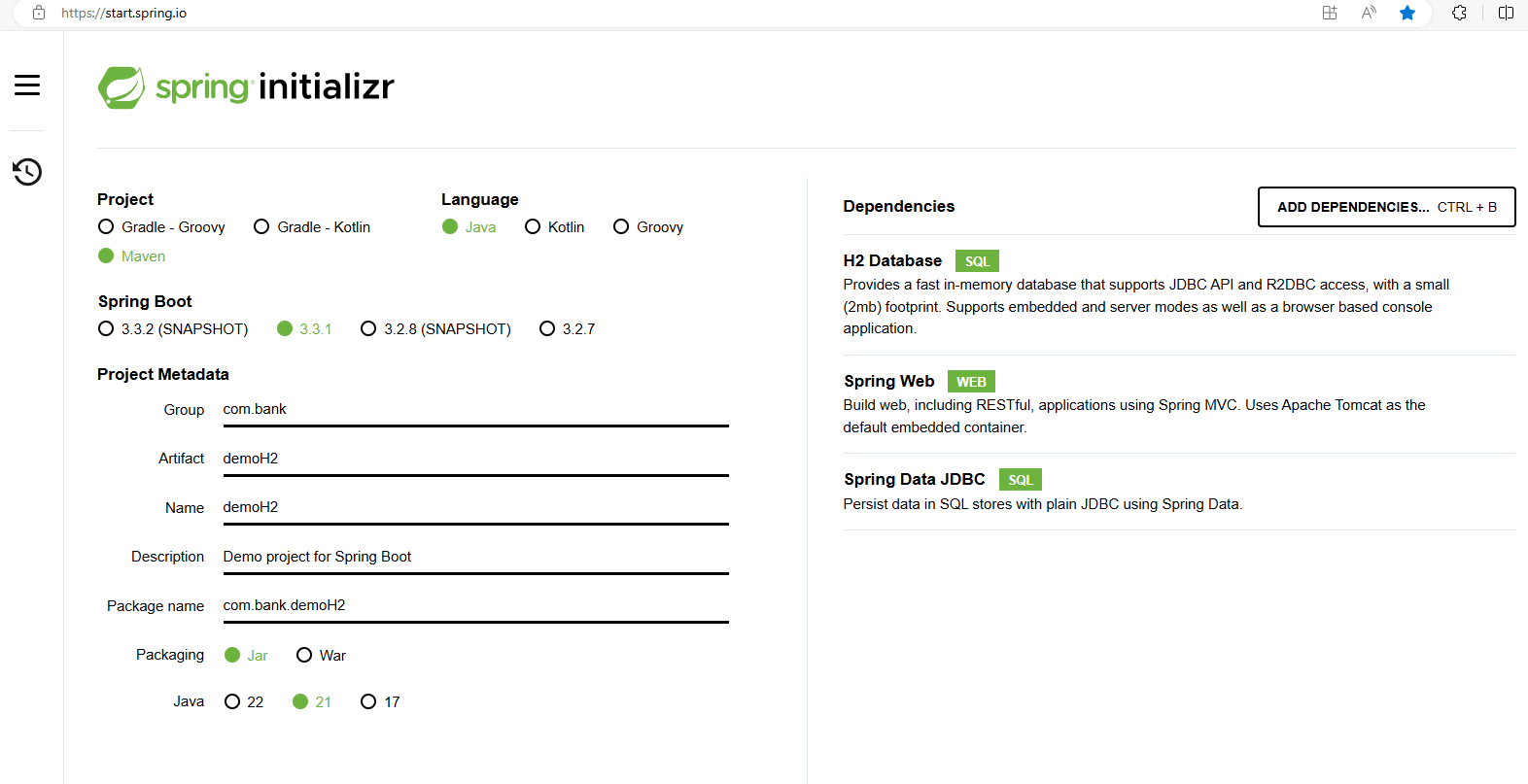
**Group** : com.bank

**Artifact** : demoAnnotation

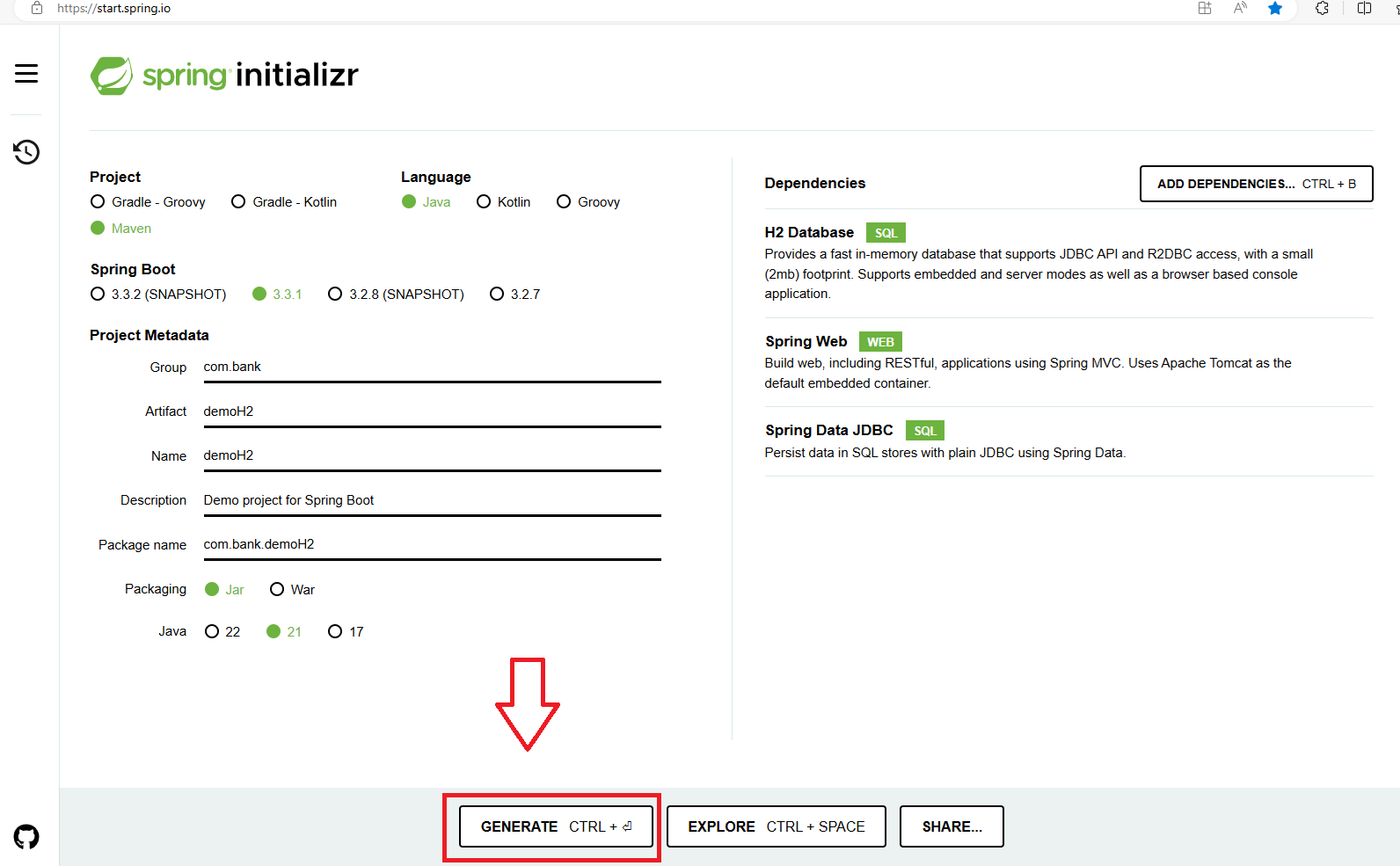
**Name** : demoAnnotation

**Description** : Dependencies Injection

**PackageName** : com.bank. demoAnnotation



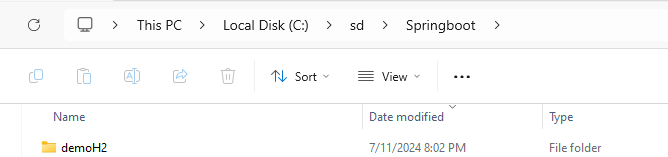
**Step 3: Click on GENERATE to download the code**



**Step 4:** Code should download now

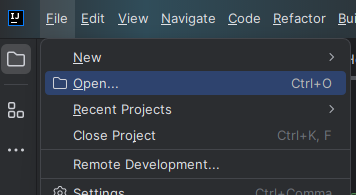


**Step 5: Extract** the project to your Project directory

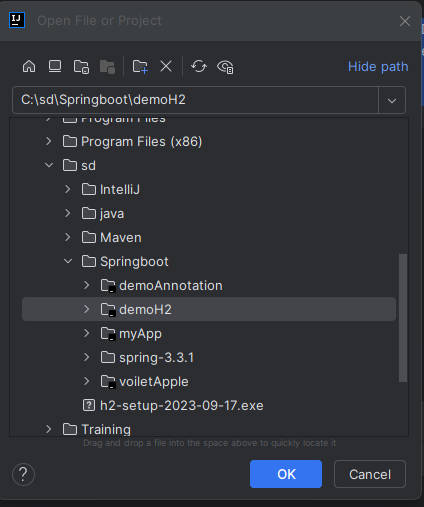


# Import Spring Boot Project in IntelliJ

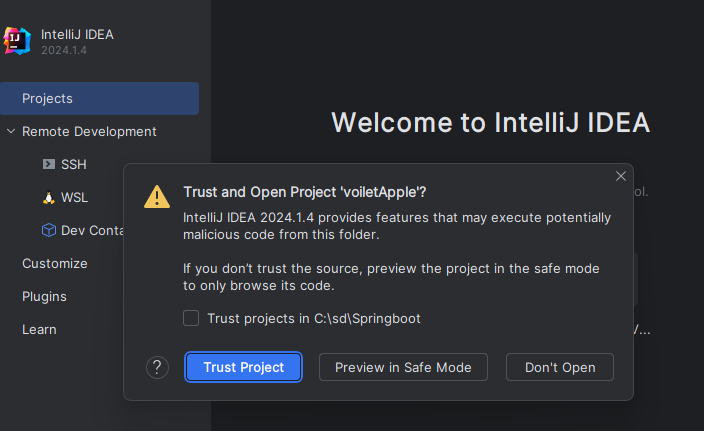
* Click File🡪 Open project



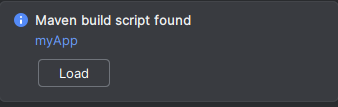
* Select your extract project and click **OK**



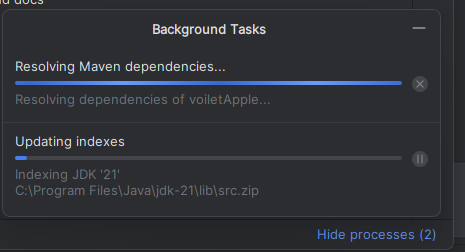
* If ask click **Trust project**

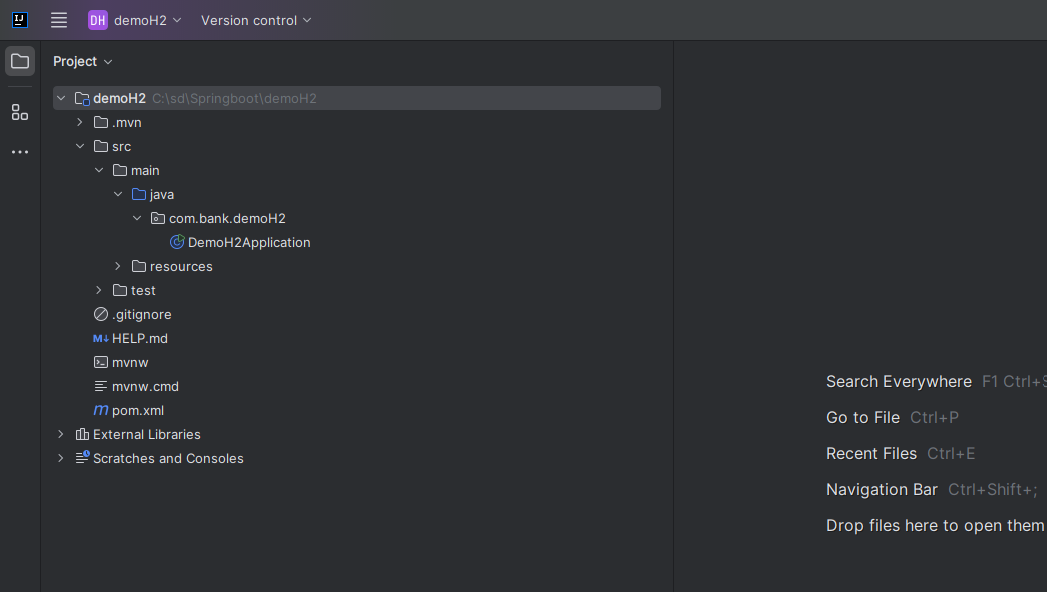


* If ask **Load** the Maven Build Script

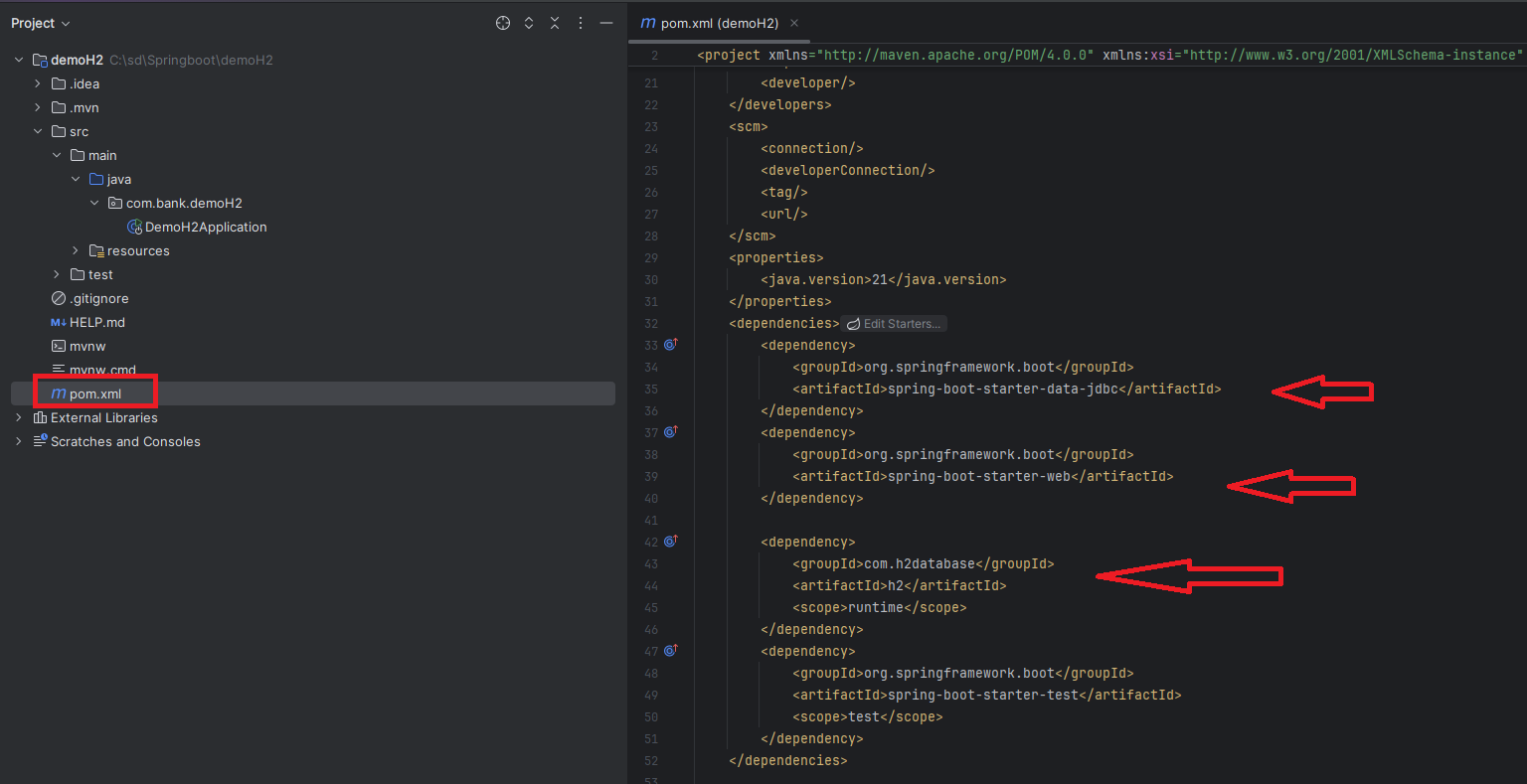


* It may takes couple of Minutes to download and Load the library

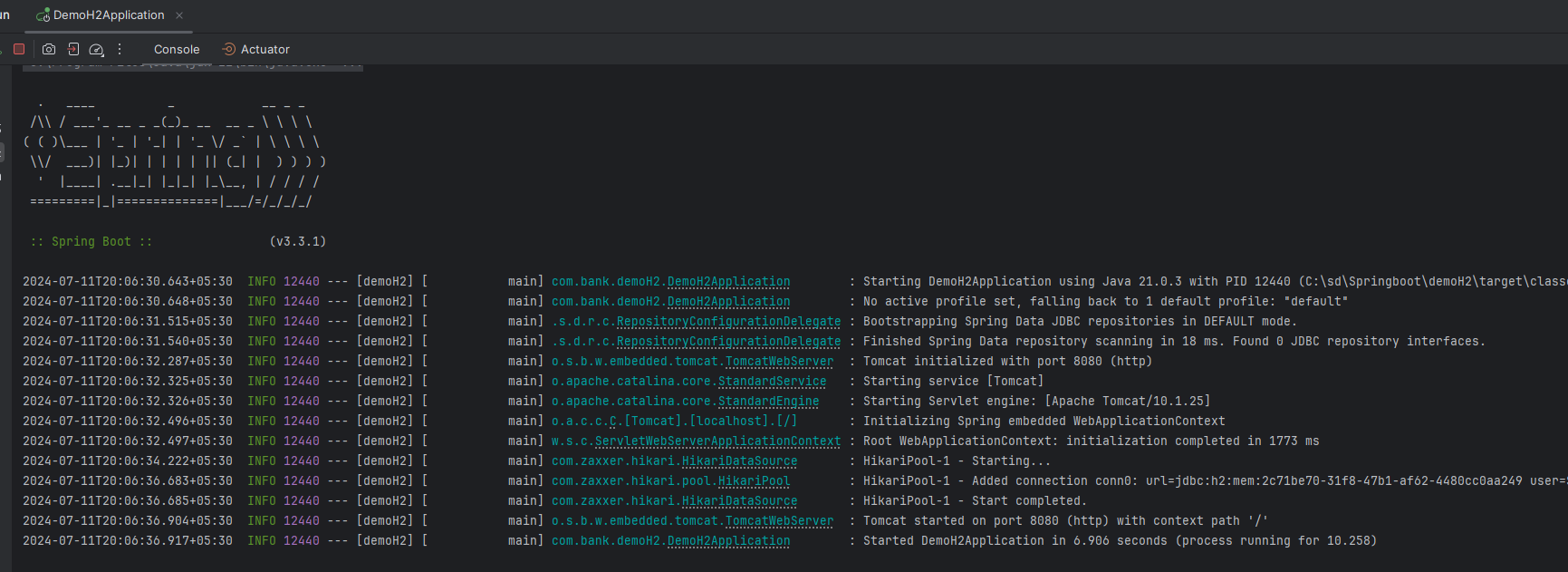


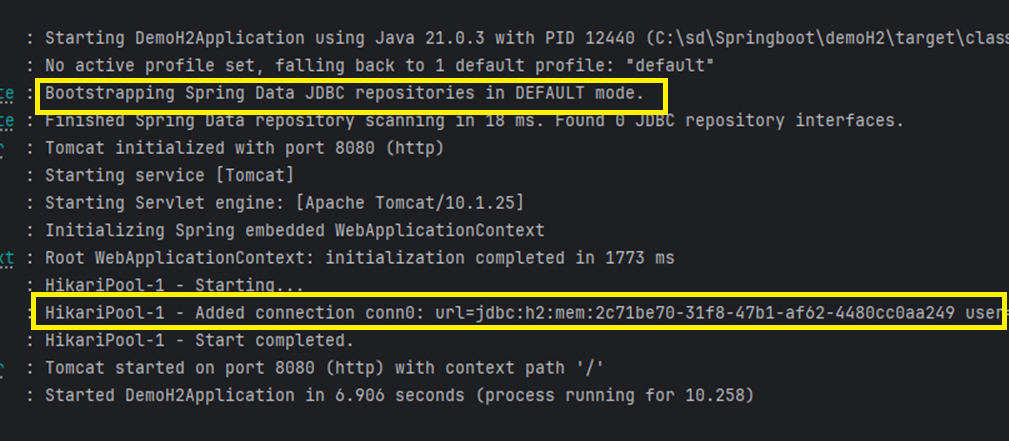


# Understand Dependencies in POM.xml



# Execute to Check if H2 Connectivity is autoconfigured

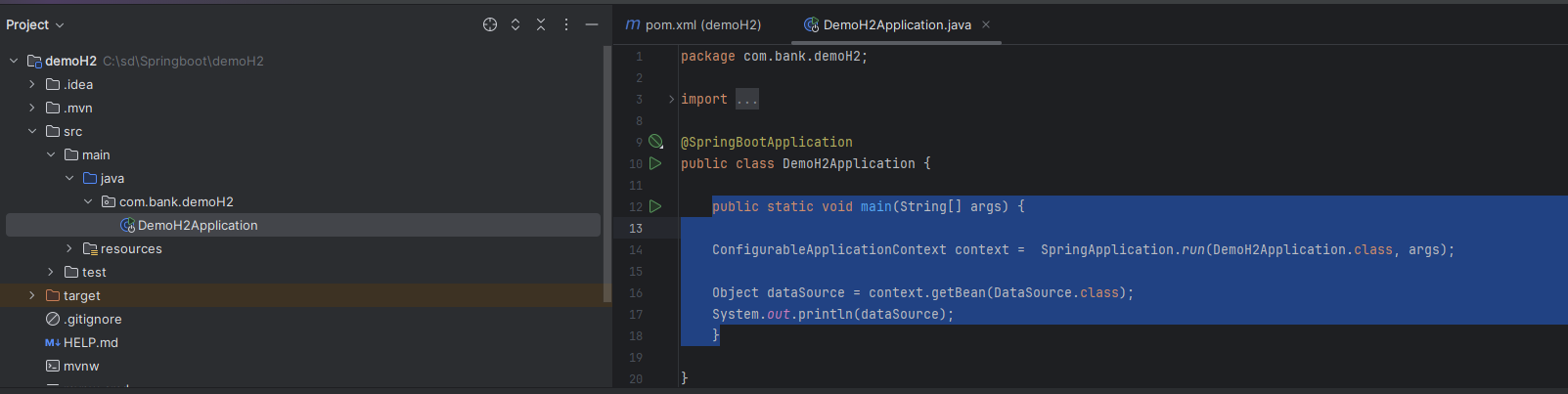


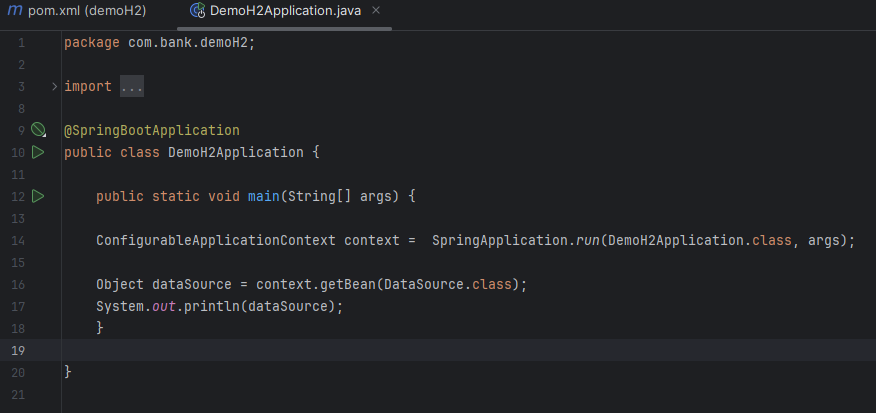


# Get details about the datasource

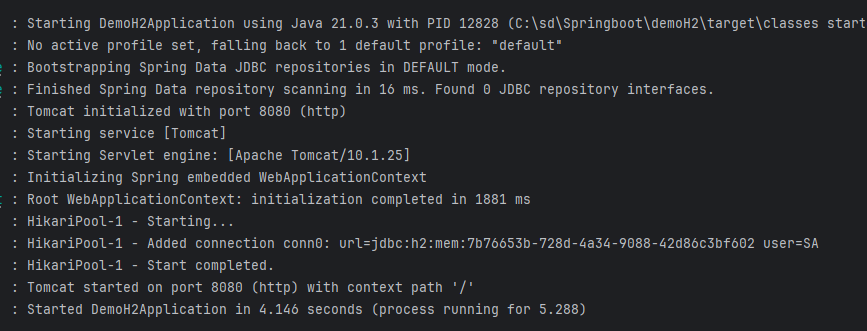
Called Beans inside main class

public static void main(String[] args) {  
  
ConfigurableApplicationContext context = SpringApplication.*run*(DemoH2Application.class, args);  
  
Object dataSource = context.getBean(DataSource.class);  
System.*out*.println(dataSource);  
}



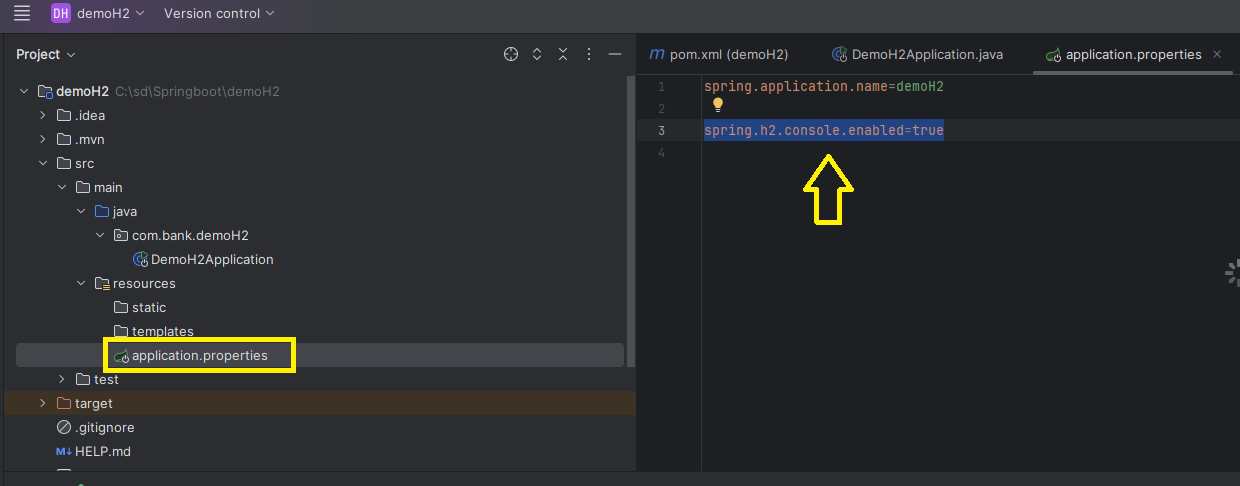


Output would be



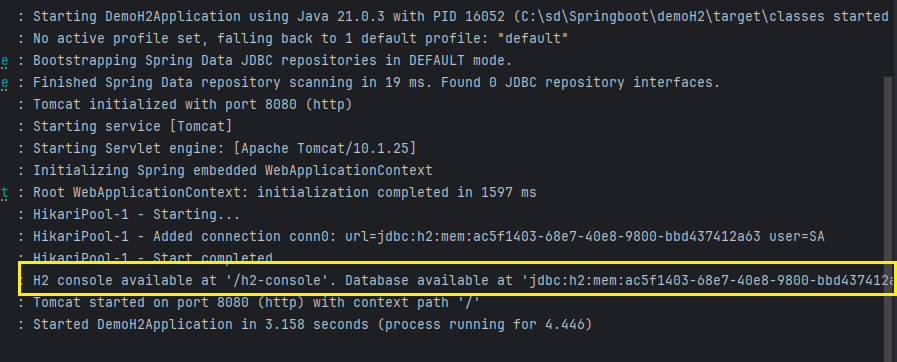
# Enable H2 Console Login in our Spring boot web portal

spring.h2.console.enabled=true



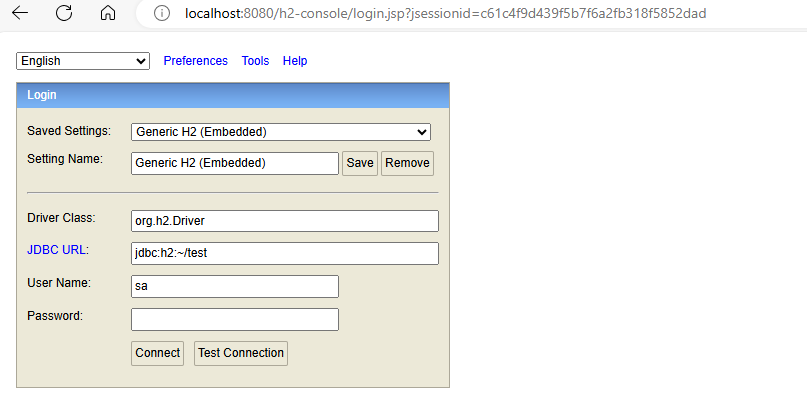
And Rerun it , note the JDBC URL

**jdbc:h2:mem:ac5f1403-68e7-40e8-9800-bbd437412a63**



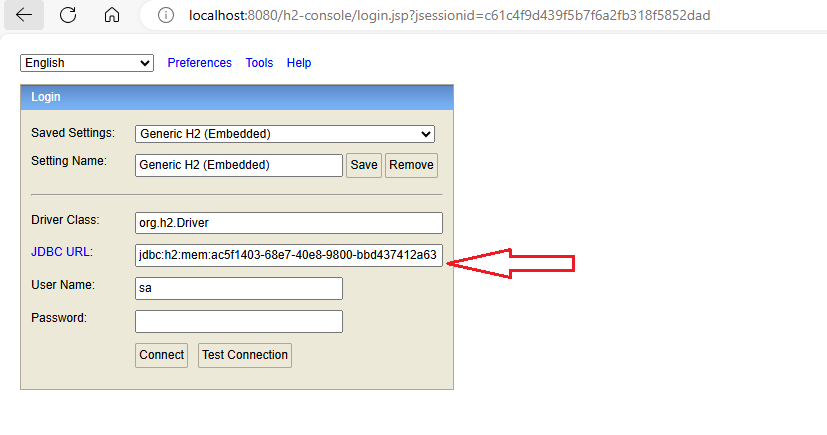
In Browser type :

<http://localhost:8080/h2-console/>

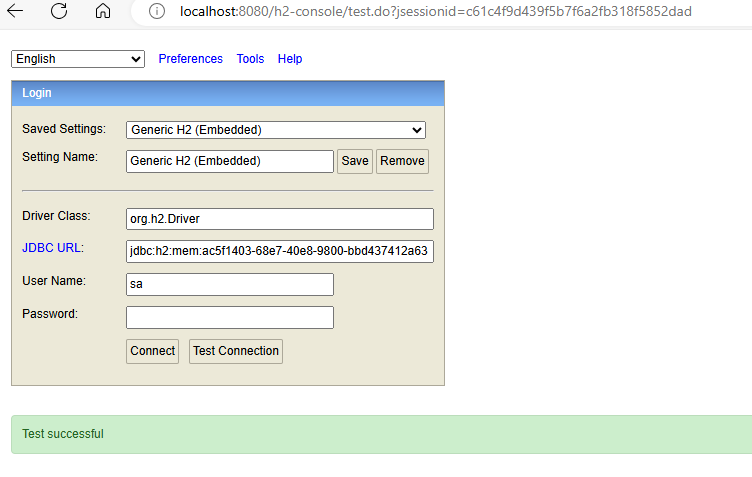


In JDBC URL type

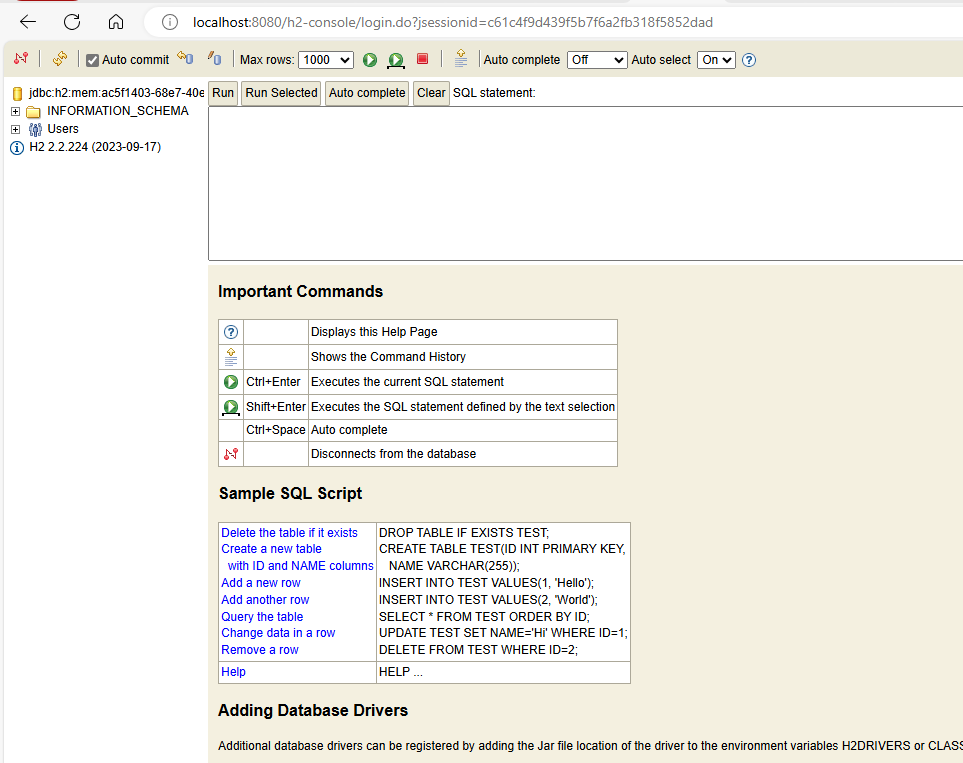
jdbc:h2:mem:ac5f1403-68e7-40e8-9800-bbd437412a63



No Password required , just click Test Connection:



Now Click Connect Button

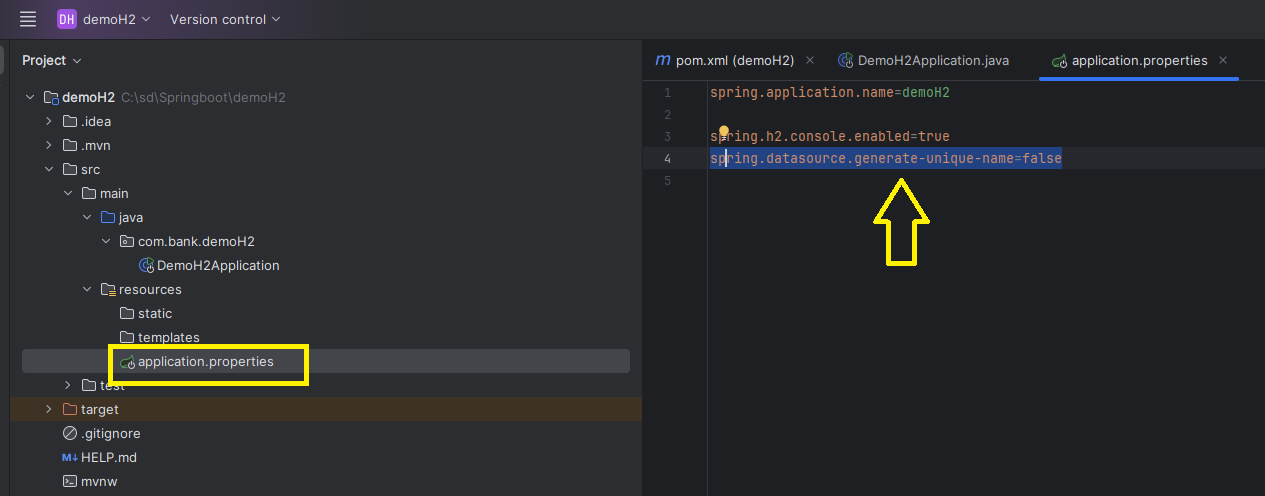


# Create database in H2

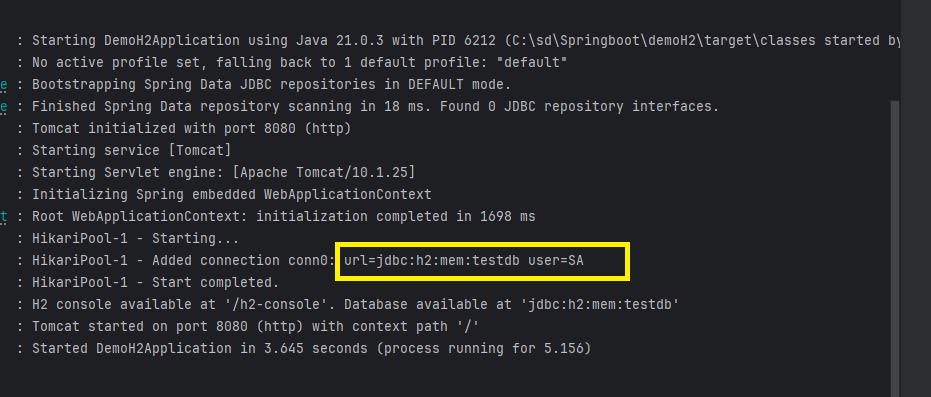
#### Disable Uniq GUID based Name

* Disable unique name for the database and create **testdb** database , Type below in **Application.properties**

spring.datasource.generate-unique-name=false



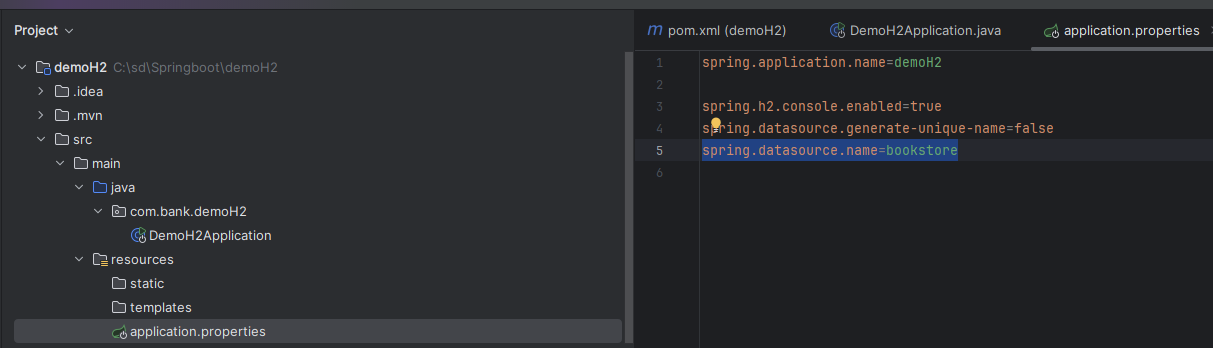
* Now Rerun to check if **testdb** created instead of unique long GUID name



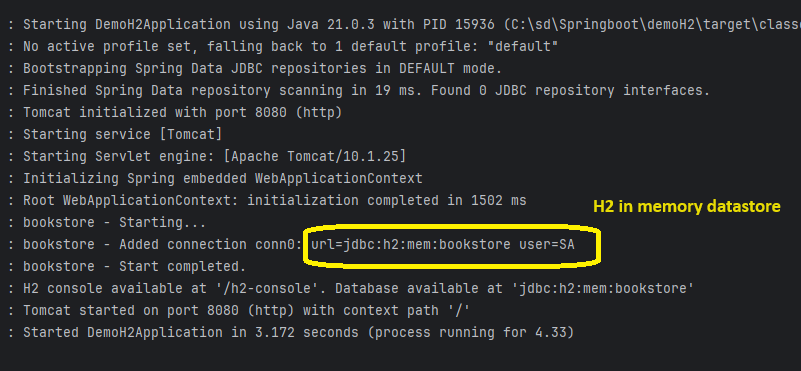
#### Create own Database

* Now we will create our own database **bookstore ,** Type below in **Application.properties**

spring.datasource.name=bookstore

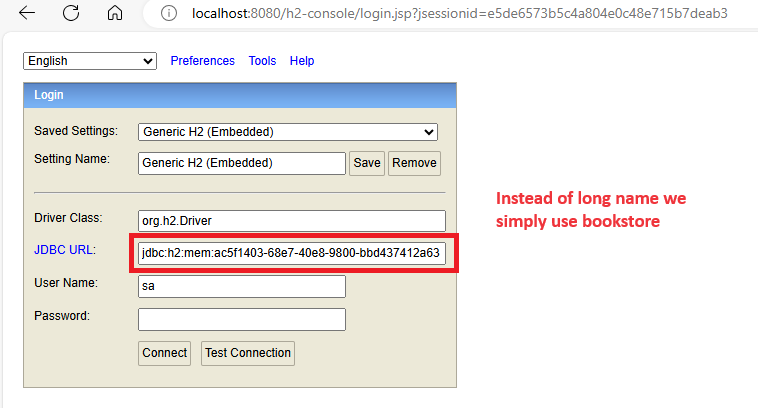


* Now Rerun it

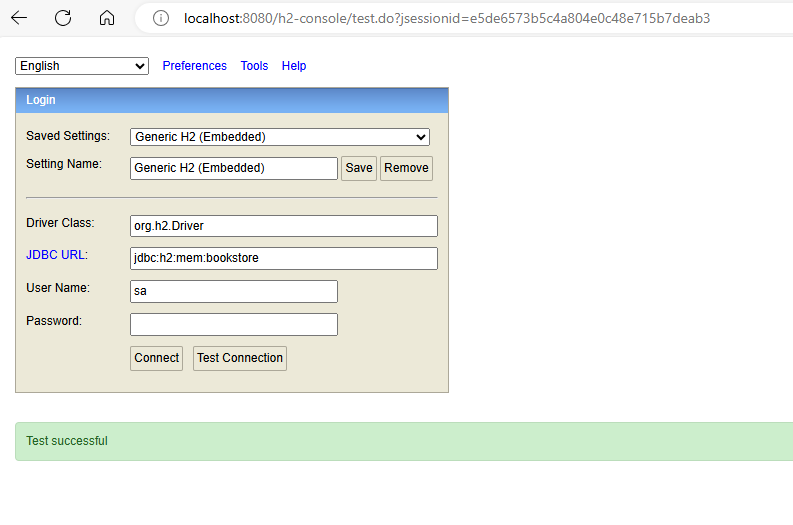


* Now Login to browser

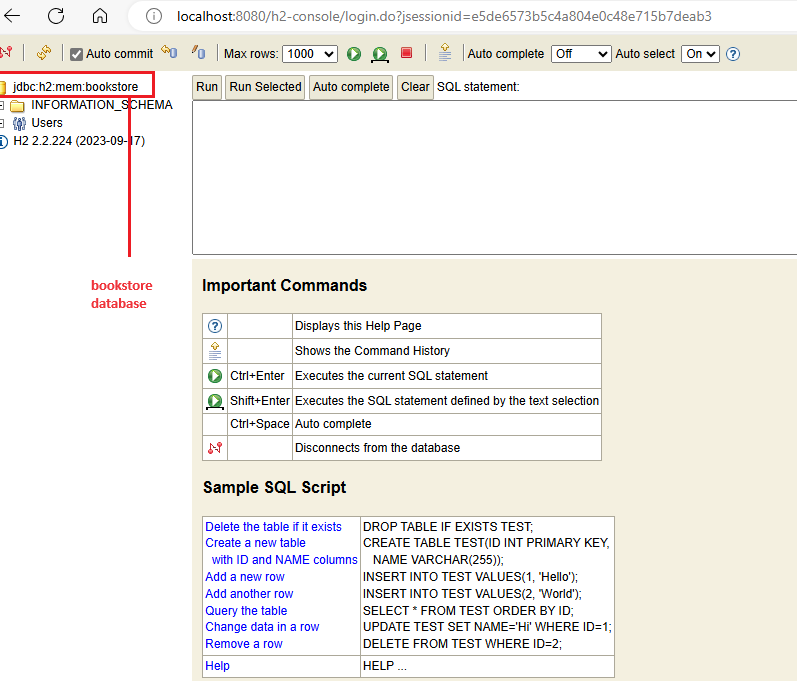
<http://localhost:8080/h2-console/>



* Remove long name and add **bookstore** after **mem:** and click **Test connection**

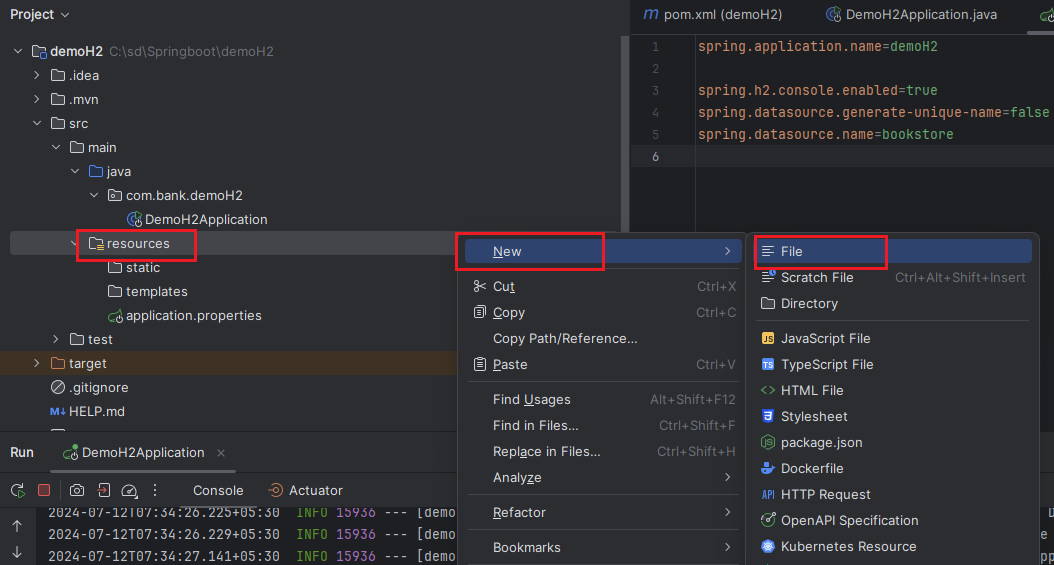
****

* Click **Connect** to connect the datastore

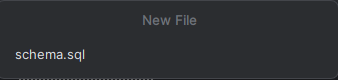


# Create Schema (Table) in H2

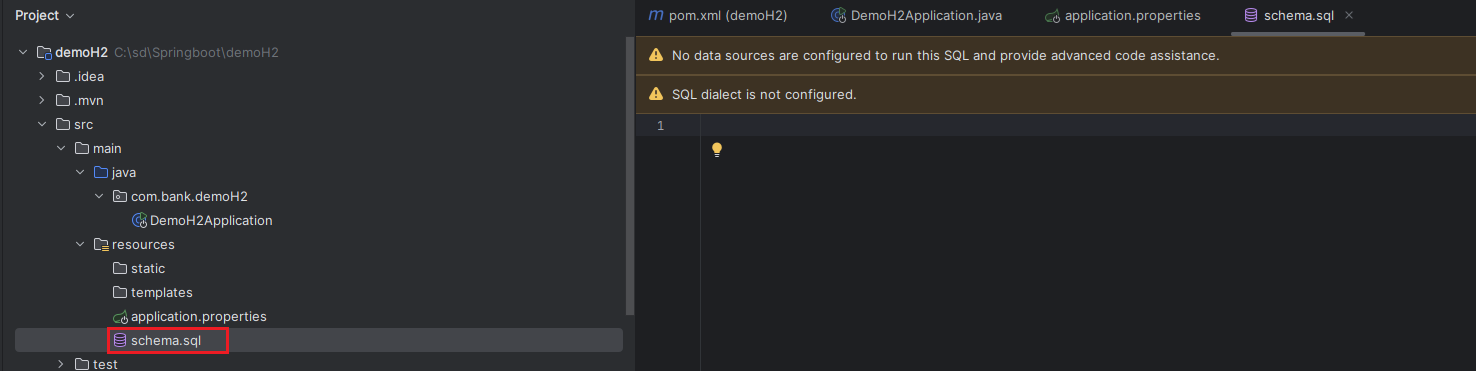
* Right Click the **Resources** 🡪 New 🡪 File



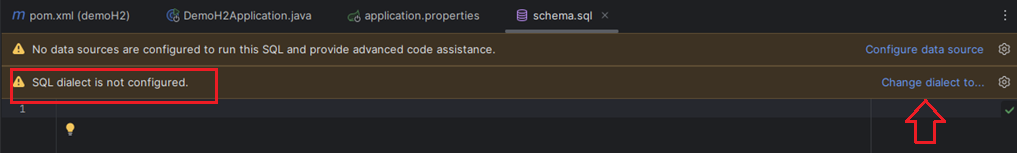
* Name the file **schema.sql**

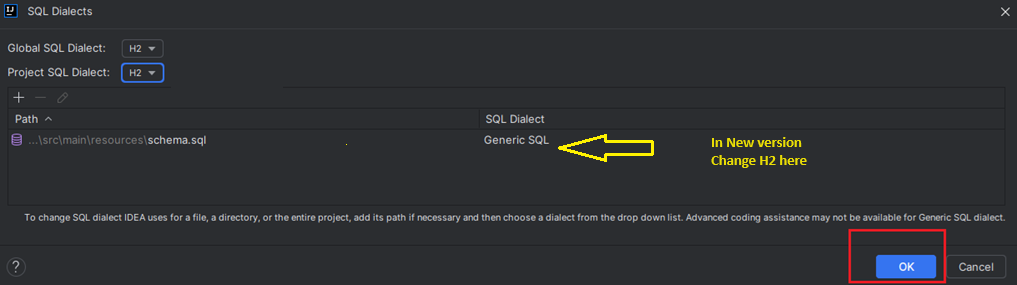
****

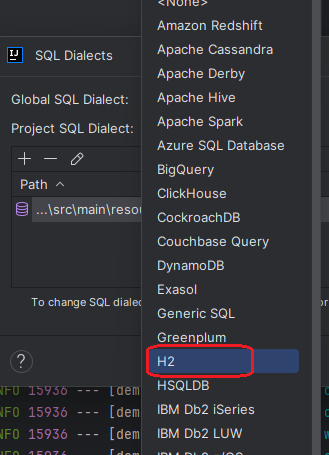
* New File Created

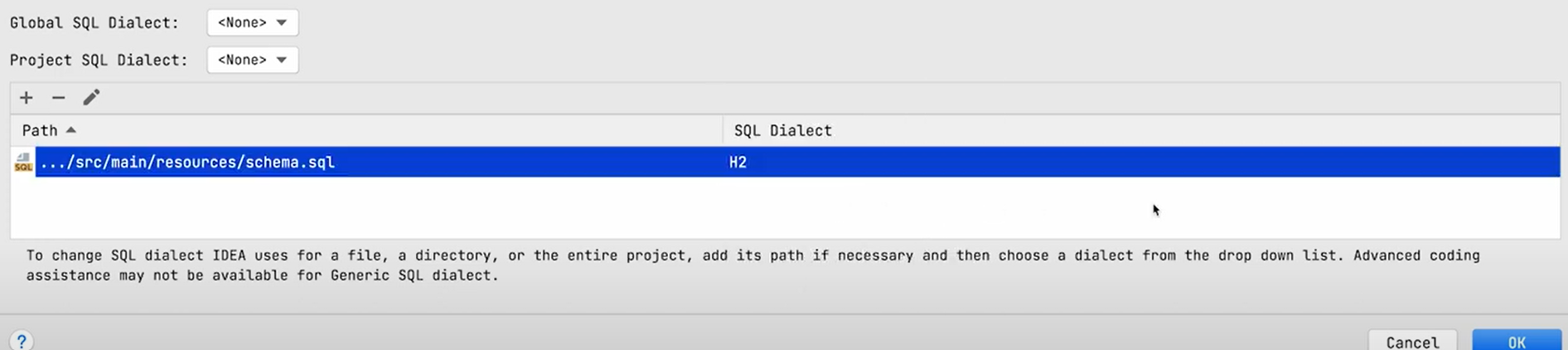
****

* Now Change the SQL Dialect to **H2**



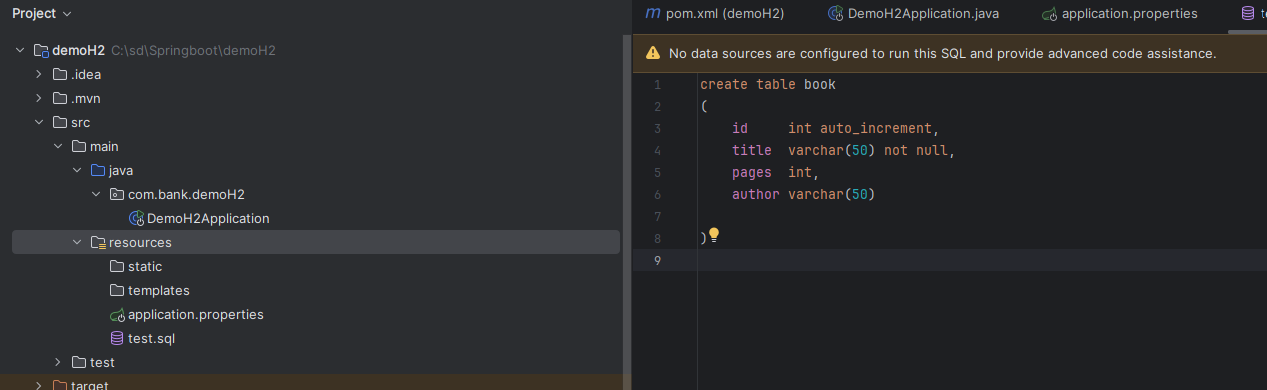




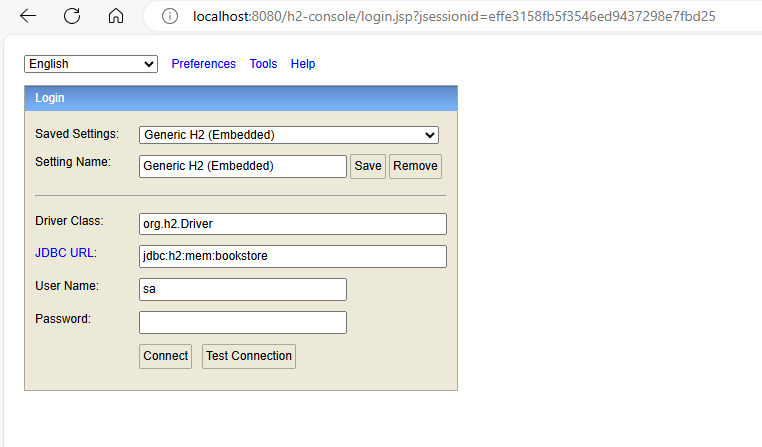


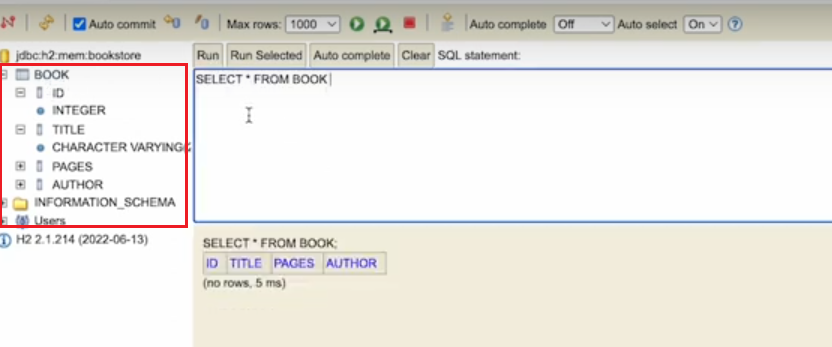
* Now we can create **schema** called **book**

create table book  
(  
 id int auto\_increment,  
 title varchar(50) not null,  
 pages int,  
 author varchar(50)  
  
)



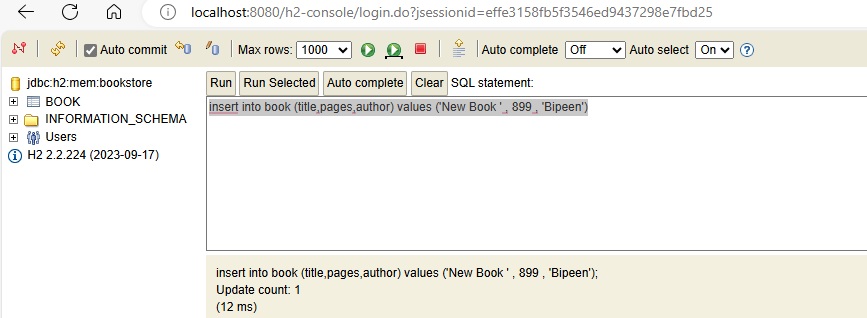
* Now Rerun it





Insert new data

insert into book (title,pages,author) values ('New Book ' , 899 , 'Bipeen')



Run select statement

**select \* from book**

