Steps to Migrate H2 database to Postgres database (Qualstra)

-Compiled by Siva S

Step 1 – Migrate Schema

Open Mysql Workbench and create a new database qualstra.

create database qualstra;

Change the Database configuration in application.properties (Database Name: qualstra)

spring.datasource.url=jdbc:mysql://localhost:3306/qualstra

spring.datasource.username={username}

spring.datasource.password={password}

spring.datasource.driver-class-name=com.mysql.cj.jdbc.Driver

Generate schema automatically using application.properties

spring.jpa.hibernate.ddl-auto= update

spring.jpa.generate-ddl=true

Change the conflicting table names and column names in the Application (Spring Boot) model classes.

Changes due to Reserved Keyword:

Reserved Keywords: USER

USER Conflicts

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| --- | --- | --- |
| **TABLE NAME** | **CONFLICT** | **SOLUTION** |
| USER | Table Name | Changed to TBL\_USER |

Open the .sql file and go to CREATE TABLE `question`

Move this low to the last column

filtr character varying(500),

go to CREATE TABLE `question\_inst`

Move this row to the last column

fltr character varying(500),

Schema is ready

Step 2- Migrating data

Export h2 database to sql file

Open the command prompt and type the following commands

java -cp {h2 jar location} org.h2.tools.Script -url jdbc:h2:{db location }\psc -user psc -password psc123$ -script qualstra.sql

{h2 jar location- replace with your h2 jar location (.\Qualstra-2.0\application\src\main\resources\db\h2.jar)

{db location- replace with your db location (.\Qualstra-2.0\application\src\main\resources\db)

Remove Create and Alter statements

We need to remove the Create and Alter statements, we only need data.

Open the sql file in notepad++ use replace

Use Regex to remove all the create and alter statements. Replace with empty strings.

regex for create:

^CREATE .\*?;

regex for alter:

^ALTER .\*?;

Process the file with H2ToMySQLConverter program

Rename the file to process.sql and move the sql file to converter folder. Use java compile and run command

javac -cp commons-lang3-3.14.0.jar H2ToPostgresSQLConverter.java

java -cp commons-lang3-3.14.0.jar;. H2ToPostgresSQLConverter

It will create output.sql

Process the unprocessable things manually

QUESTION\_INST is not processed in program.

Lines containing STRINGDECODE must be removed from QUESTION\_INST Insert statements. Manually search using notepad++ and replace the lines containing STRINGDECODE after fixing it in Chat GPT

Now, open this output.sql file and run it in the mysql workbench.

Move Insert Statements (foreign key constrains)

Move the following tables INSERT query to the top (or foreign key error will be thrown)

CMPNY, SHIP, SECTION, SECTION\_INST, TBL\_RANK, USER, QUESTION, QUESTION\_INST

or remove all constrains and add them later

Remove the double Filter(Filtr/Fltr) from schema

After all data is inserted, remove the doubled column filter,

Run the following sql querries to remove doubled column in QUESTION

UPDATE question SET FLTR = NULL WHERE FLTR IS NOT NULL;

ALTER TABLE question DROP COLUMN FLTR;

Run the following sql querries to remove doubled column in QUESTION\_INST

UPDATE question\_inst SET FILTR = NULL WHERE FILTR IS NOT NULL;

ALTER TABLE question\_inst DROP COLUMN FILTR;

Other Information:

When exporting from Mysql workbench, go to advanced option and select Hexblob- dump binary using Hexadecimal (because we use binary for uuid)

H2 Table count: 54

Postgres Schema generated, Table count: 31

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **H2 Database** | **MYSQL Database** |  | **H2 Database** | **MYSQL Database** |
| ATTACHMENT | attachment |  | TBL\_CHECKLIST |  |
| CHKLST | chklst |  | TBL\_CHECKLIST\_ITEMS |  |
| CHKLST\_INST | chklst\_inst |  | TBL\_CHECKLIST\_SECTION |  |
| CHKLST\_SEC | chklst\_sec |  | TBL\_CHKLIST\_NONCONFORMANCES |  |
| CHKLST\_SEC\_INST | chklst\_sec\_inst |  | TBL\_COUNTRY |  |
| CMPNY | cmpny |  | TBL\_CURRENCY |  |
| COMP\_RANK | comp\_rank |  | TBL\_MAST\_CHECKLIST |  |
| COMP\_USER | comp\_user |  | TBL\_MAST\_CHECKLIST\_ITEM |  |
| COUNTRY | country |  | TBL\_MAST\_CHECKLIST\_SECTION |  |
| CURRENCY | currency |  | TBL\_MAST\_FLEET |  |
| EMPLOYEE |  |  | TBL\_MAST\_SHIPCOMPANY |  |
| FLEET | fleet |  | TBL\_MAST\_USER |  |
| FLEET\_SHIP | fleet\_ship |  | TBL\_MAST\_VESSEL |  |
| NON\_CONF | non\_conf |  | TBL\_MOU | tbl\_mou |
| PORT | port |  | TBL\_MOU\_COUNTRY |  |
| PRIV | priv |  | TBL\_SCHEDULE |  |
| QUESTION | question |  | TBL\_SEAPORT |  |
| QUESTION\_INST | question\_inst |  | TBL\_TENANTCODE |  |
| RANK | tbl\_rank |  | TBL\_TENANTCONFIG |  |
| ROLE | role |  | TBL\_TENANTREFERENCE |  |
| ROLE\_PRIV | role\_priv |  | TBL\_VESSEL\_DOCS |  |
| SECTION | section |  | TBL\_VOYAGE |  |
| SECTION\_INST | section\_inst |  | TEMPLATE | template |
| SEC\_QUE | sec\_que |  | USER | tbl\_user |
| SEC\_QUE\_INST | sec\_que\_inst |  | USR\_PRIV | usr\_priv |
| SHIP | ship |  | USR\_ROLE | usr\_role |
| TBL\_ATTACHMENT |  |  | VOYAGE | voyage |
|  |  |  |  |  |
|  | : Table for which NO model is available |  | : Table for which NO model class is available And Contains Data in H2 database |  |
|  |  |  |