

Portfolio Projects Showcase

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Description of the Project:

All Portfolio Projects aim to showcase my SQL skills. All SQL projects are performed on Microsoft SQL Server 2019.

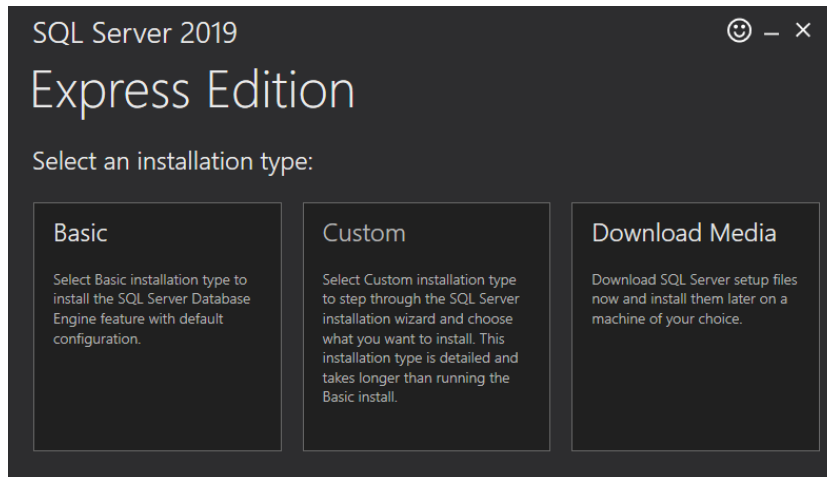
Covid project presents data manipulation in order to obtain desired results that would be informative and useful for research purposes of covid impact globally. Project presents probabilities of getting infected and chances of dying after infection, as well as presenting vaccine rollout nationally.

Nashville project aims to clean up database of unwanted records and convert some of data into format that would be easier to read and use, improving data manipulation in future.

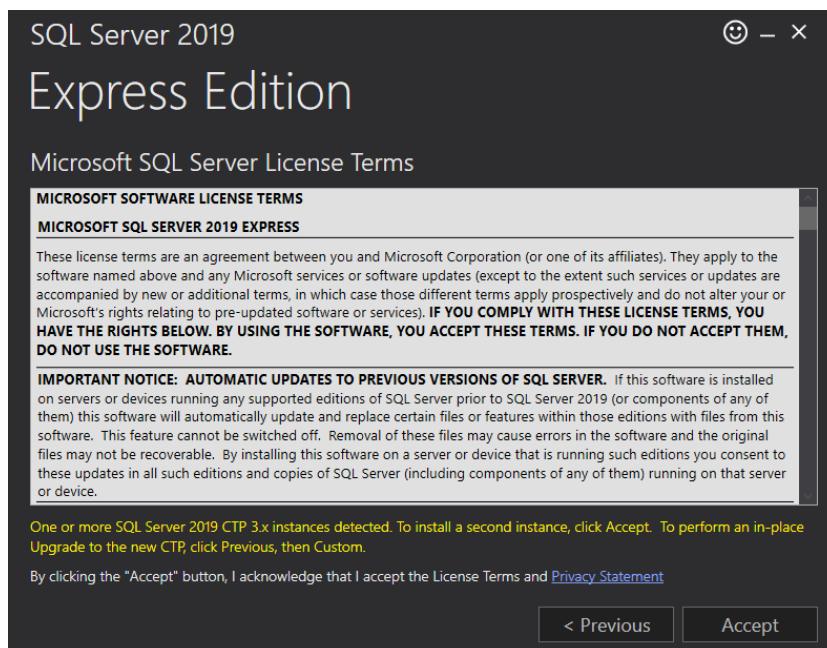
How to Install Project guide

To install and import project data follow instructions below:

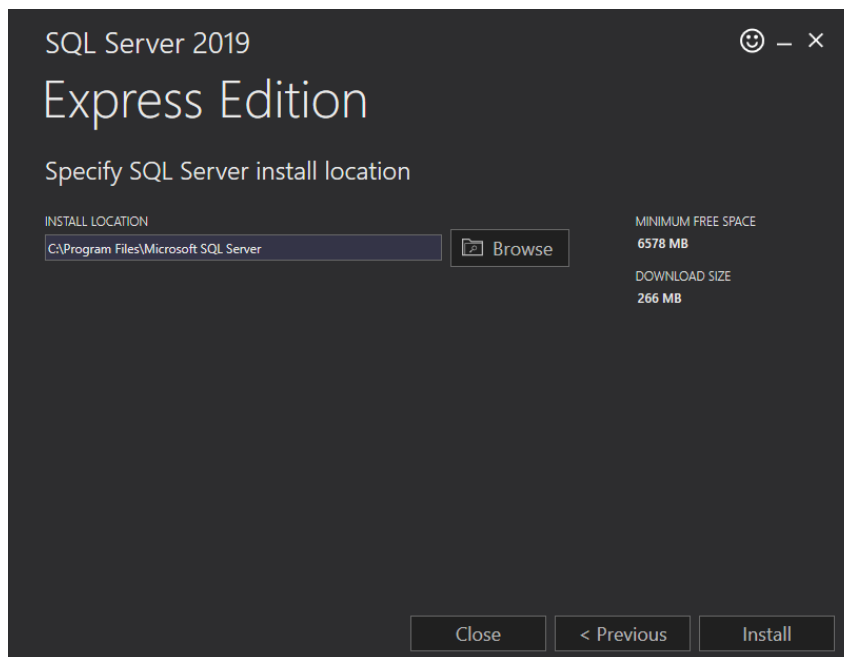
1. Download Microsoft SQL Server 2019 Express edition from following link
- <https://www.microsoft.com/en-us/sql-server/sql-server-downloads>
2. Install Microsoft SQL Server 2019



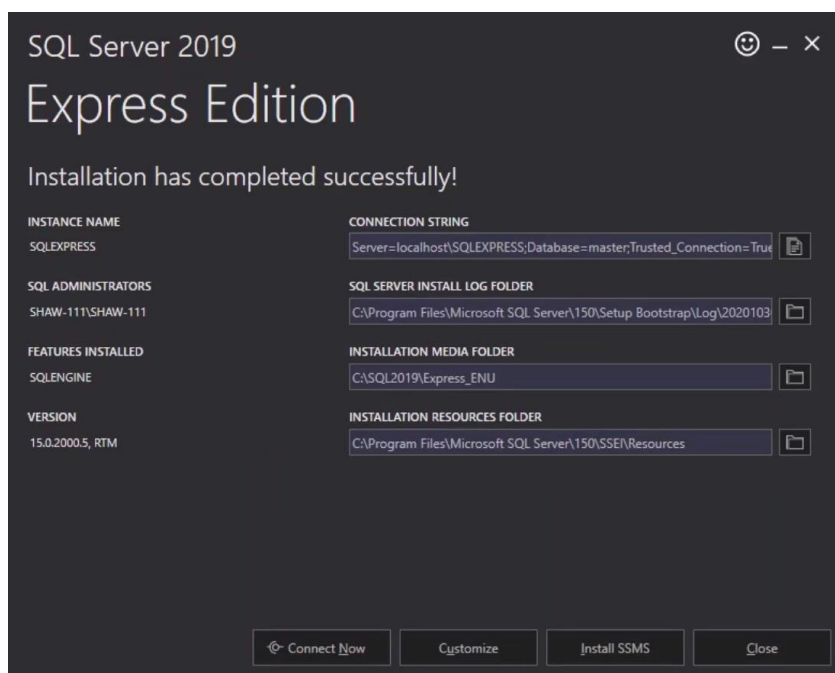
Choose basic version



Agree to terms and conditions



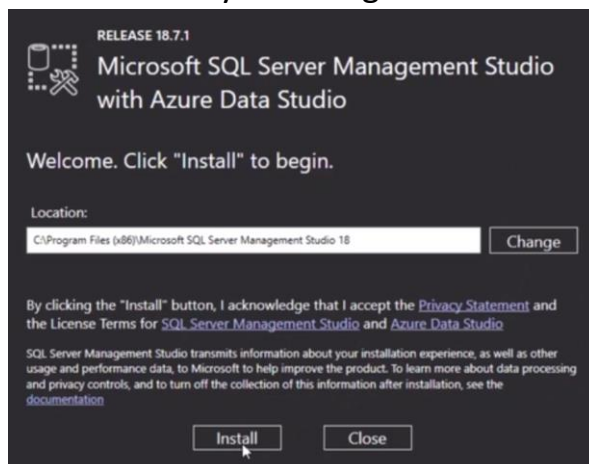
Choose local disc for installation > click '**Install**' button



After installation click '**Connect now**' button to connect MS SQL Server to computer > finally click on '**Install SSMS**' button to begin installation of SQL Server Management Studio (this will redirect you to website where you will be able to download and install SSMS)

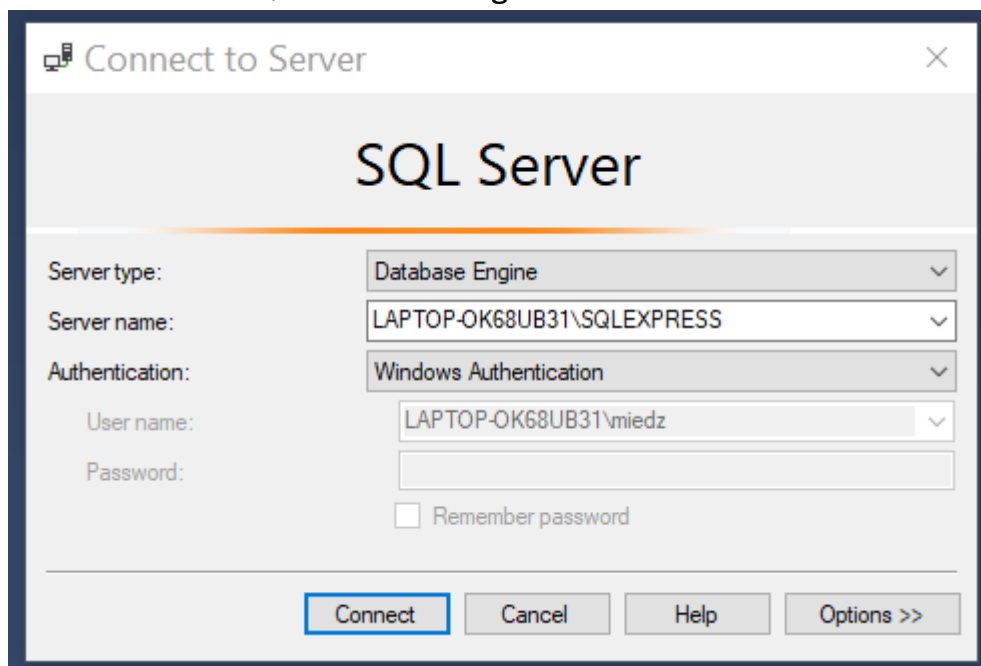
3. Download SQL Server Management Studio from above mentioned website or if previous step will not work, use following link - <https://docs.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms?view=sql-server-ver15>

4. Install SSMS by choosing local disc for installation



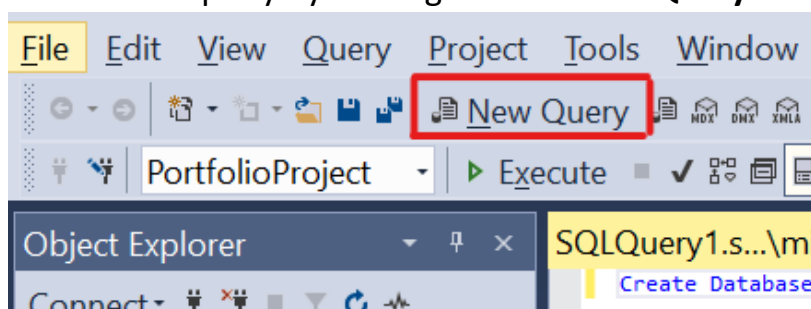
Then click '**Install**' button > after installation close SSMS and MS SQL Server installation wizard

5. Run Microsoft SQL Server Management Studio 2018 from Start menu

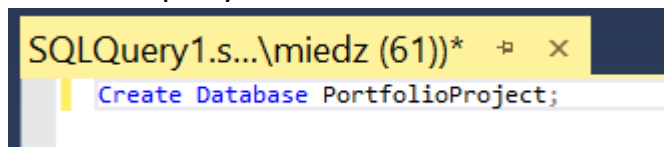


Click '**Connect**' button to connect SSMS with MS SQL Server (leave default setup – Server Type, Server Name and Authentication)

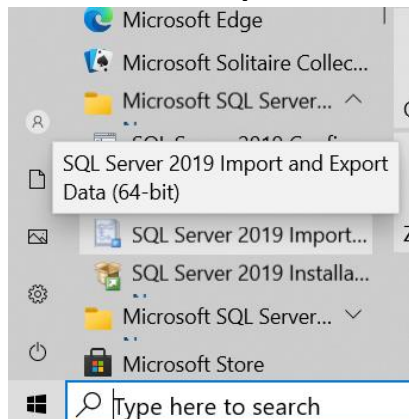
6. Create new query by clicking button '**New Query**' at top of SSMS window



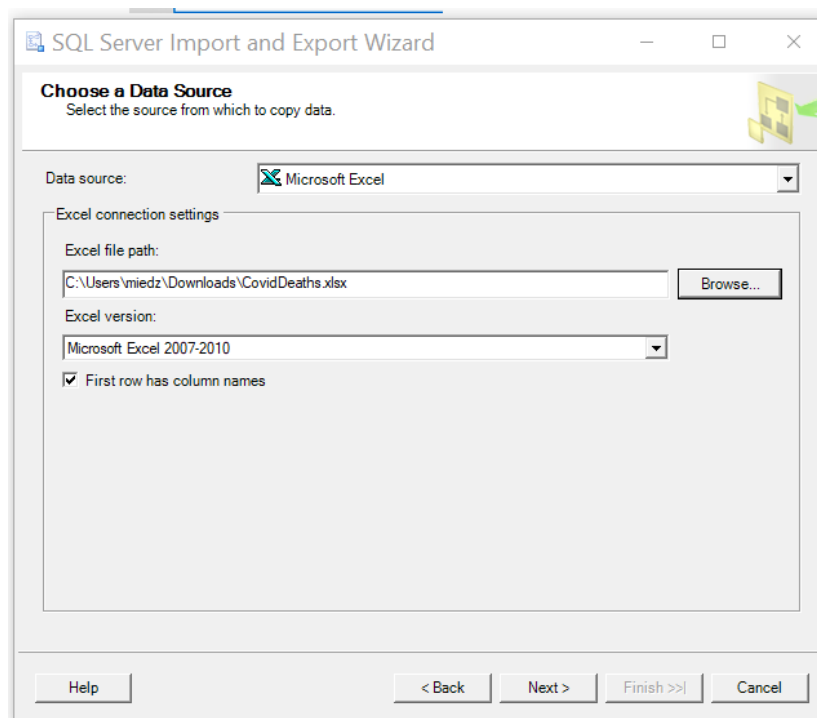
7. Create new database called **'PortfolioProject'** by inserting following code into new query: Create Database PortfolioProject;



8. Import data from provided excel spreadsheet by opening start menu > locating folder **'Microsoft SQL Server 2019'** and inside clicking on **'SQL Server 2019 Import and Export Data (64-bit)'**



Follow import and export wizard and click **'Next'**



In following section choose data source to be Excel from drop down list > find excel file path from your computer that needs to be imported (e.g. CovidDeaths) > click **'Next'**

Choose a Destination
Specify where to copy data to.

Destination: SQL Server Native Client 11.0

Server name: LAPTOP-OK68UB31\SQLEXPRESS

Authentication

☒ Use Windows Authentication

☐ Use SQL Server Authentication

User name:

Password:

Database: PortfolioProject

Refresh

New...

Help < Back Next > Finish >> Cancel

In next section choose destination of imported data to be **'SQL Server Native Client 11.0'** > Server name should match your server's name used for connection by SSMS > choose correct database from dropdown list **'PortfolioProject'** > click **'Next'**

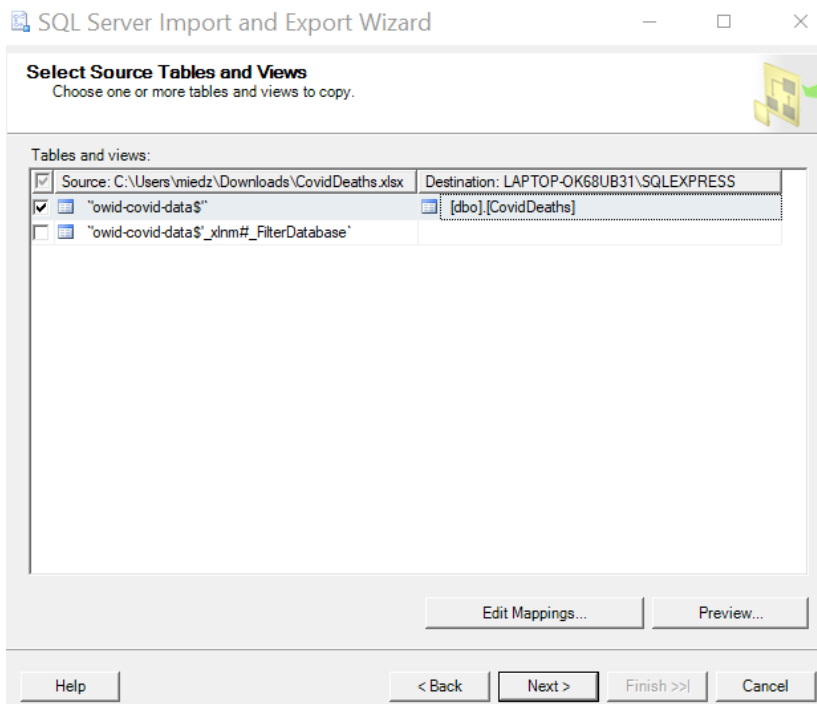
Specify Table Copy or Query
Specify whether to copy one or more tables and views or to copy the results of a query from the data source.

☒ **Copy data from one or more tables or views**
Use this option to copy all the data from the existing tables or views in the source database.

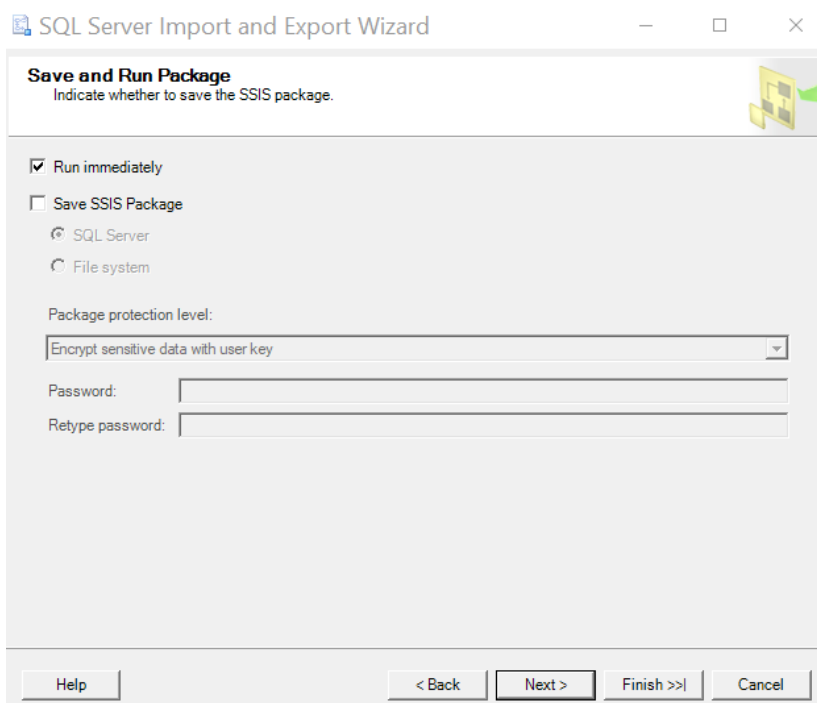
☐ **Write a query to specify the data to transfer**
Use this option to write an SQL query to manipulate or to restrict the source data for the copy operation.

Help < Back Next > Finish >> Cancel

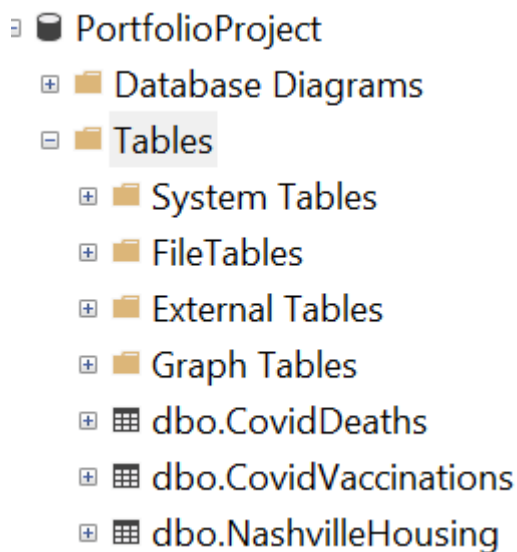
In following sections choose **'Copy data from one or more tables or views'** > click **'Next'**



In next section choose first entry from source (top entry) > in destination cell change name of record to **'[dbo].[CovidDeaths]'** (follow same procedure when entering name of destination record of other data sets from CovidVaccination and NashvilleHousing) > click **'Next'**



In following section make sure **'Run immediately'** is checked > click on **'Finish'** twice to start import of data > when procedure is finished close Import and Export wizard

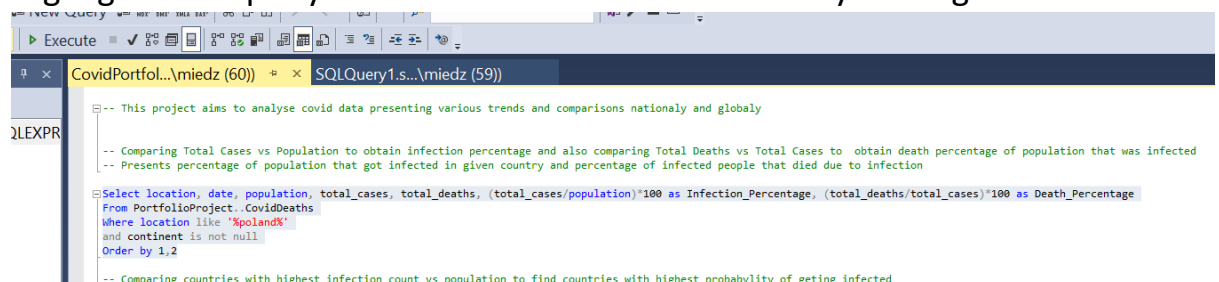


Check in SSMS, in object explorer on left side under Database > PortfolioProject > Tables that you have correctly imported all data sets into PortfolioProject database and that names display as above (if names do not match above picture, triple click on the name and retype to match above example)

How to use Project guide

To run project, follow instructions below:

1. Open SQL Service Management Studio > Connect to your server > Create new query
2. Locate SQL Project file '**CovidPortfolioProject1.1.sql**' (it should be in Download folder when downloaded from Github or it can be opened in Github by clicking '**CovidPortfolioProject1.1.sql**')
3. Drag and drop '**CovidPortfolioProject1.1.sql**' from download to new query or copy all of the code from Github into new query
4. Highlight each query at a time and run them in SSMS by clicking '**Execute**'



Results of query will be shown in bottom part of SSMS below New Query window

Query Text:

```
-- This project aims to analyse covid data presenting various trends and comparisons nationally and globally

-- Comparing Total Cases vs Population to obtain infection percentage and also comparing Total Deaths vs Total Cases to obtain death percentage of population that was infected
-- Presents percentage of population that got infected in given country and percentage of infected people that died due to infection

Select location, date, population, total_cases, total_deaths, (total_cases/population)*100 as Infection_Percentage, (total_deaths/total_cases)*100 as Death_Percentage
From PortfolioProject..CovidDeaths
Where location like '%poland%'
and continent is not null
Order by 1,2

-- Comparing countries with highest infection count vs population to find countries with highest probability of getting infected

Select location, population, MAX(total_cases) as Highest_Infection_Count, MAX((total_cases/population))*100 as Percent_Of_Population_Infected
From PortfolioProject..CovidDeaths
Where continent is not null
Group by location, population
Order by Percent_Of_Population_Infected DESC

-- Presentation of Countries with highest death count

Select location, population, MAX(cast(total_deaths as int)) as Total_Death_Count
From PortfolioProject..CovidDeaths
```

Results Table:

location	date	population	total_cases	total_deaths	Infection_Percentage	Death_Percentage
Poland	2020-03-04 00:00:00.000	37846605	1	NULL	2.64224492527137E-06	NULL
Poland	2020-03-05 00:00:00.000	37846605	1	NULL	2.64224492527137E-06	NULL
Poland	2020-03-06 00:00:00.000	37846605	5	NULL	1.32112246263568E-05	NULL
Poland	2020-03-07 00:00:00.000	37846605	5	NULL	1.32112246263568E-05	NULL
Poland	2020-03-08 00:00:00.000	37846605	11	NULL	2.90646941779851E-05	NULL
Poland	2020-03-09 00:00:00.000	37846605	16	NULL	4.22759188043419E-05	NULL
Poland	2020-03-10 00:00:00.000	37846605	22	NULL	5.81293883599701E-05	NULL
Poland	2020-03-11 00:00:00.000	37846605	31	NULL	8.19095926834124E-05	NULL
Poland	2020-03-12 00:00:00.000	37846605	49	1	0.000129470001338297	2.04081632653061
Poland	2020-03-13 00:00:00.000	37846605	68	2	0.000179672654918453	2.94117647058824
Poland	2020-03-14 00:00:00.000	37846605	103	3	0.000272151227302951	2.9126213592233
Poland	2020-03-15 00:00:00.000	37846605	119	3	0.000314427146107293	2.52100840336134
Poland	2020-03-16 00:00:00.000	37846605	177	4	0.000467677351773032	2.25988700564972
Poland	2020-03-17 00:00:00.000	37846605	238	5	0.000628854292214586	2.10084033613445
Poland	2020-03-18 00:00:00.000	37846605	251	5	0.000663203476243113	1.99203187250996
Poland	2020-03-19 00:00:00.000	37846605	355	5	0.000937996948471336	1.40845070422535
Poland	2020-03-20 00:00:00.000	37846605	425	5	0.00112295409324033	1.17647058823529
Poland	2020-03-21 00:00:00.000	37846605	536	5	0.00141624327994545	0.932835820895572

Query executed successfully.

- Read comments in green to find out what following query will present or perform on given data set and in some queries, you can change name of searched data to find desired results (e.g. in first query presented above you can change name of country to inspect percentage of population that got infected with Covid in that given country by entering name of the country in section **'%poland%'**)
- Follow same procedure from previous steps in order to run Nashville Housing Project