

# **Read Me Document**

## **Team 10 : SQL Samurai**

### **Data Sources**

1. [Smith School Program websites](#)
2. [UMD Directory](#)
3. [Student Outcomes](#)
4. [US News](#)
5. [QS World University Rankings](#)
6. [Quantnet](#)
7. [College Factual](#)
8. [Financial Times](#)
9. [Economist](#)
10. LinkedIn
11. Faculty CVs
12. Research Publications
13. [Smith School Awards 14 Faculty Grants for Innovation Research](#)

### **References**

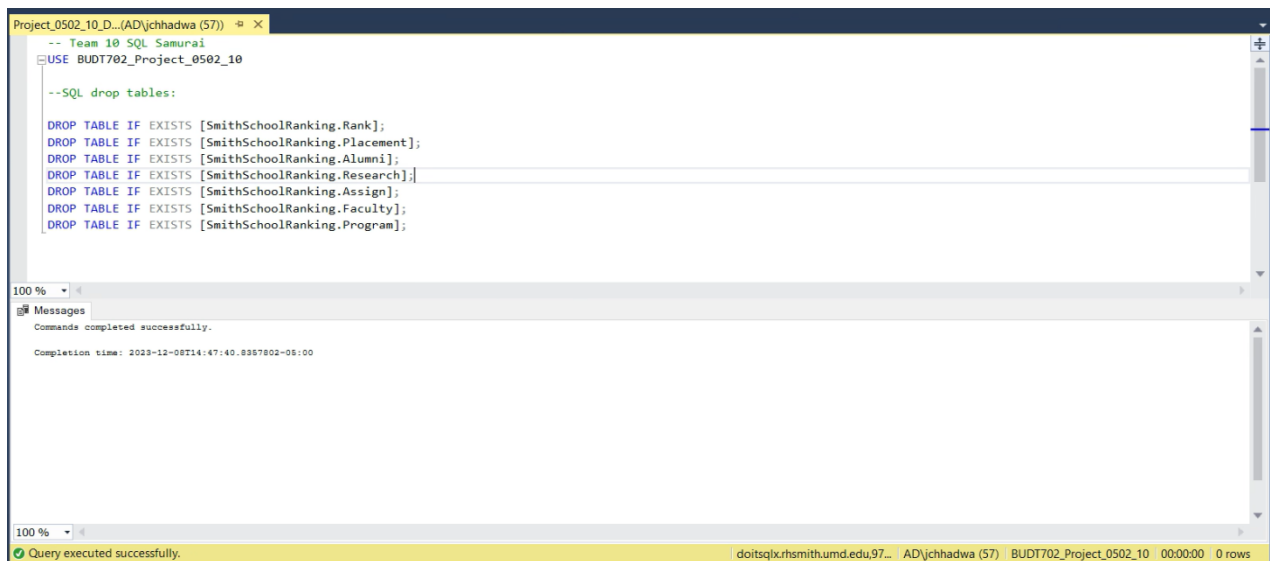
1. Modern Database Management 13th Edition' by Jeffrey A. Hoffer, V. Ramesh & Heikki Topi
2. <https://learn.microsoft.com/en-us/sql/relational-databases/tutorial-getting-started-with-the-database-engine?view=sql-server-ver16>
3. <https://www.lucidchart.com/pages/tour>

### **Testing The Project**

- Open the Microsoft SQL Server Management Studio using Virtual Desktop. Use your UMD login credentials and server name as **desktop.rhsmith.umd.edu** and server number as **doitsqlx.rhsmith.umd.edu,9703**.

- Make sure to use the **USE BUDT702\_Project\_0502\_10** database for this project

1. Initially, we will execute the **Project\_0502\_10\_Drop\_Table\_Statements.sql** file to ensure that the database contains no duplicate tables with the same name as the tables we intend to utilize. Should they exist, we will remove them from the database. Following code execution, the following output should be obtained:



The screenshot shows a SQL execution window titled "Project\_0502\_10\_D... (AD\jchhadwa (57))". The main pane displays the following SQL code:

```
-- Team 10 SQL Samurai
USE BUDT702_Project_0502_10

--SQL drop tables:

DROP TABLE IF EXISTS [SmithSchoolRanking.Rank];
DROP TABLE IF EXISTS [SmithSchoolRanking.Placement];
DROP TABLE IF EXISTS [SmithSchoolRanking.Alumni];
DROP TABLE IF EXISTS [SmithSchoolRanking.Research];
DROP TABLE IF EXISTS [SmithSchoolRanking.Assign];
DROP TABLE IF EXISTS [SmithSchoolRanking.Faculty];
DROP TABLE IF EXISTS [SmithSchoolRanking.Program];
```

The bottom pane, labeled "Messages", shows the output:

```
Commands completed successfully.
Completion time: 2023-12-08T14:47:40.8957802-05:00
```

The status bar at the bottom indicates "Query executed successfully." and "doitsqlx.rhsmith.umd.edu,97... AD\jchhadwa (57) BUDT702\_Project\_0502\_10 00:00:00 0 rows".

2. The file **Project\_0502\_10\_Create\_Table\_Statements.sql** will then be executed in order to generate each table needed for the project. We should see the following output after running the code, indicating that the tables were successfully created.

The screenshot shows a SQL Developer window titled "Project\_0502\_10\_Cr...(AD\jchhadwa (58))". The main editor contains a SQL script to create a table named `SmithSchoolRanking.Alumni`. The script defines columns: `alumniID` (CHAR(2), NOT NULL), `alumniGraduationYear` (CHAR(4)), `alumniName` (VARCHAR(75)), `alumniCompanyName` (VARCHAR(75)), `alumniDesignation` (VARCHAR(75)), and `prgmID` (CHAR(2)). It also includes a primary key constraint `pk_alumniID` on `alumniID` and a foreign key constraint `fk_Program_prmID3` on `prgmID` that references `SmithSchoolRanking.Program`. The Messages pane at the bottom shows "Commands completed successfully." and "Completion time: 2023-12-08T14:56:49.5678373-05:00". The status bar at the bottom indicates "Query executed successfully." and "0 rows".

```
CREATE TABLE [SmithSchoolRanking.Alumni] (  
  alumniID CHAR (2) NOT NULL,  
  alumniGraduationYear CHAR (4),  
  alumniName VARCHAR (75),  
  alumniCompanyName VARCHAR (75),  
  alumniDesignation VARCHAR (75),  
  prgmID CHAR (2),  
  CONSTRAINT pk_alumniID PRIMARY KEY (alumniID),  
  CONSTRAINT fk_Program_prmID3 FOREIGN KEY (prgmID)  
    REFERENCES [SmithSchoolRanking.Program] (prgmID)  
    ON DELETE NO ACTION  
    ON UPDATE NO ACTION  
)
```

3. We use the file **Project\_0502\_10\_Insert\_Into\_Statements.sql** to enter data records into each and every table after they are created. The following output will appear after the code has executed, indicating that the records have been successfully inserted.

The screenshot shows a SQL Developer window titled "Project\_0502\_10\_In...(AD\jchhadwa (59))". The main editor contains a SQL script with a list of 10 rows of data to be inserted into the `SmithSchoolRanking.Assign` table, followed by an `INSERT INTO` statement. The Messages pane shows the execution results for each row: "(10 rows affected)", "(20 rows affected)", "(40 rows affected)", "(12 rows affected)", "(26 rows affected)", "(30 rows affected)", and "(17 rows affected)". The status bar at the bottom indicates "Query executed successfully." and "0 rows".

```
( '23','2020','Megha Komarraju','NICE CXone','Implementation Analyst','01'),  
( '24','2022','Carrie Walczak','Capital One','Finance Associate','05'),  
( '25','2022','Niani McDonald','UMD Smith School of Business','Data Analyst','04'),  
( '26','2022','Tennie (U-Tung) Chang','Wunderman Thompson','Analyst','04'),  
( '27','2016','Benjamin Eidelberg','Washington Wizards','Director, Basketball Strategy & Analytics','04'),  
( '28','2022','Farid Freyha','Employbridge','Marketing Analyst','04'),  
( '29','2019','Harriet Peng','Navy Federal Credit Union','Data Scientist','04'),  
( '30','2020','Tanisha Sabhaney','WSAudiology','Product Marketing Analyst','04'),  
  
INSERT INTO [SmithSchoolRanking.Assign]  
VALUES  
  ('01','01','BUDT704'),  
  ('03','02','BUDT731'),  
  ('02','01','BUDT721'),  
  ('04','01','BUDT702'),
```

4. We will drop any views that might be present in our database with the same name once all the data records have been inserted into all the created tables by running the file **Project\_0502\_10\_Drop\_View\_Statements.sql** to ensure there are no discrepancies. When we run this code, the following output should appear:

```
Project_0502_10_D... (AD\jchhadwa (58))
-- Team 10 SQL Samurai
USE BUDT702_Project_0502_10
-- SQL drop views:
GO
DROP VIEW IF EXISTS ExamScoresView
GO
|
GO
DROP VIEW IF EXISTS FacultyResearchView
GO

100 %
Messages
Commands completed successfully.
Completion time: 2023-12-08T16:00:30.4511906-05:00

100 %
Query executed successfully. doitsqlx.rhsmith.umd.edu.97... AD\jchhadwa (58) BUDT702_Project_0502_10 00:00:00 0 rows
```

5. After the elimination of every view, we run the file **Project\_0502\_10\_Create\_View\_Statements.sql**, which creates and displays views. When we run this code, the following output should appear:

```
Project_0502_10_Cr... (AD\jchhadwa (60))
-- Team 10 SQL Samurai
USE BUDT702_Project_0502_10
-- SQL create views:
GO
CREATE VIEW ExamScoresView AS
SELECT p.prgmAvgGREReq, p.prgmAvgTOFELReq
FROM [SmithSchoolRanking.Program] p
GO
SELECT *
FROM ExamScoresView;
GO
CREATE VIEW FacultyResearchView AS
SELECT f.facultyID ,f.facultyName, r.researchArea

100 %
Results Messages
prgmAvgGREReq prgmAvgTOFELReq
1 310 100
2 307 97
3 309 99
4 310 100
5 313 103
6 309 99
7 312 105
8 320 108

facultyID facultyName researchArea
1 01 John Bono Supply Chain
2 02 Tejwansh (Tej) Singh Anand Manufacturing & Service Operations Management
3 03 Sujin Kim Information Systems
4 04 Woel-zh (Adam) Lee U.S. Department of Education

Query executed successfully. doitsqlx.rhsmith.umd.edu.97... AD\jchhadwa (60) BUDT702_Project_0502_10 00:00:00 22 rows
```

6. The file **Project\_0502\_10\_Select\_Statements.sql** is then executed. We are able to see every table in our database, along with every record of data, by running this file. We should get the following result after running the code, indicating that the tables were correctly shown.

Project\_0502\_10\_S...(AD\jchhadwa (65))

```
-- Team 10 SQL Samurai
USE BUDT702_Project_0502_10

-- SQL select statements:

SELECT prgmName AS 'Program Name', prgmAcronym AS 'Program Acronym', prgmDegree AS 'Program Degree', prgmCredit AS 'No. of Credits', prgmSemester AS 'No. of Semesters',
prgmDuration AS 'Program Duration', prgmAvgGPA AS 'Average GPA Requirement', prgmAvgGREReq AS 'Average GRE Requirement', prgmAvgTOEFLReq AS 'Average TOEFL Requirement'
FROM [SmithSchoolRanking.Program];

SELECT ranking AS 'Ranking', prgmRankYear AS 'Ranking Year', rankingAgencyName AS 'Ranking Agency', prgmID AS 'Proram ID'
FROM [SmithSchoolRanking.Rank];

SELECT facultyName AS 'Faculty Name', facultyTitle AS 'Faculty Title', facultyQualification AS 'Faculty Qualification', facultyDOJ AS 'Faculty Year of Joining',
facultyEmpDurationInYears AS 'Faculty Employment Duration (in Years)', facultyEmail AS 'Faculty Email'
FROM [SmithSchoolRanking.Faculty];
```

100 %

Results Messages

Program Name	Program Acronym	Program Degree	No. of Credits	No. of Semesters	Program Duration	Average GPA Requirement	Average GRE Requirement	Average TOEFL Requirement
1 Information Systems	IS	M.S.	30	3	16	3.5	310	100
2 Business Analytics	BA	M.S.	30	3	16	3.3	307	97
3 Supply Chain Management	SCM	M.S.	30	3	16	3.3	309	99
4 Marketing Analytics	MA	M.S.	30	3	16	3.5	310	100
5 Quantitative Finance	QF	M.S.	36	4	24	3.4	313	103
6 Accounting	ACC	M.S.	30	3	16	3.2	309	99
7 Finance	FIN	M.S.	30	3	16	3.4	312	105
8 Full Time Management Studies	FTMBA	M.B.A.	54	4	24	3.5	320	108

Ranking	Ranking Year	Ranking Agency	Proram ID
1 11	2023	US News	01
2 31	2022	QS	02
3 28	2023	Top Universities	03
4 6	2017	Colloee Factual	04

Query executed successfully. doitsqlx.rsmith.umd.edu.97... AD\jchhadwa (65) BUDT702\_Project\_0502\_10 00:00:00 154 rows

7. Finally, we will run the file **Project\_0502\_10\_Business\_Transacction\_Statements.sql** to look for different business transactions. We can view different analyses by executing this file. Following code execution, the following output—which includes a number of tables and views relevant to a certain analysis—should appear. Moreover, depending on the type of analysis we like to conduct, we can execute a specific query. The file's top contains a list of several analyses.

Project\_0502\_10\_B...(AD\jchhadwa (60))

```
-- Team 10 SQL Samurai
USE BUDT702_Project_0502_10

-- List of Business Transactions / WH Questions :
-- 1. Which is the highest ranking earned by each program at the Robert H. Smith School of Business over the years ? Also specify the year in which the highest ranking
-- 2. Who are the faculty members with top 3 research grants. Specify all the details of the faculty along with the grant amounts in descending order.
-- 3. For the year 2022, which program had the best placement record, and what was the rank achieved corresponding to the program ?
-- 4. What are the details of the faculty members of the top-ranked program the current year (i.e., 2023). Also display the courses being taught by the respective facu.
-- 5. Create a view - For the currently top 2 ranked programs, what are the average GRE and TOEFL score requirements ?
-- 6. Create a view - Who are the alumni of the program that has achieved the highest ranking in 2023. What have they achieved ?

-- QUESTION 1: Which is the highest ranking earned by each program at the Robert H. Smith School of Business ? Also specify the year in which the highest ranking was ac

SELECT p.prgmName AS 'Program Name', r.prgmRankYear AS 'Program Ranking Year', r.ranking AS 'Highest Ranking Achieved'
```

100 %

Results Messages

Program Name	Program Ranking Year	Highest Ranking Achieved
1 Finance	2022	2
2 Marketing Analytics	2017	6
3 Information Systems	2021	7
4 Flex Management Studies	2022	12
5 Executive Management Studies	2023	12
6 Quantitative Finance	2022	20
7 Full Time Management Studies	2022	24
8 Supply Chain Management	2022	26

Faculty Name	Faculty Title	Qualification	Research Title	Area of Interest	Research Grant Amount (in US\$)
1 Woeriyh (Adam) Lee	Associate Clinical Professor	Ph.D. Bioinformatics	Restoring America's Competitive Edge	U.S. Department of Education	\$ 1,520,000
2 Kislaya Prasad	Academic Director, Center for Global Business	Ph.D. in Economics	Collaborative Research: Incentives in the Workplace	National Science Foundation	\$ 679,000
3 Tejwansh (Tej) Singh Anand	Academic Director, MS in Information Systems	Ed.D.	Smith Researchers Address Liver Transplant Geogr...	Manufacturing & Service Operations Management	\$ 360,000

Query executed successfully. doitsqlx.rsmith.umd.edu.97... AD\jchhadwa (60) BUDT702\_Project\_0502\_10 00:00:00 30 rows