Video Store DB Production Project

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IS470

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Tools Used

- VMWare Workstation Pro, SSMS, SSRS, VS
- Windows Server 2022, SQL Server,

Notes:

VM-DC1

Domain admins:

dcadmin

Thesus14

Local admins:

Adminstrator

Thesus14

Both VM-DC1 and VM-SQL1 do not have password to login to VM

Windows IP Configuration

   Host Name . . . . : VM-DC1
   Primary Dns Suffix . . . . : student.wou.home
   Node Type . . . . : Hybrid
   IP Routing Enabled. . . . . : No
   WINS Proxy Enabled. . . . . : No
   DNS Suffix Search List. . . . . . : student.wou.home

Ethernet adapter Ethernet0:

   Connection-specific DNS Suffix . :
   Description . . . . : Intel(R) 82574L Gigabit Network Connection
   Physical Address. . . . . : 00-0C-29-1D-9D-F3
   DHCP Enabled. . . . . : No
   Autoconfiguration Enabled . . . . : Yes
   Link-local IPv6 Address . . . . . : fe80::2e:b698:8144:74ca%14(Preferred)
   IPv4 Address. . . . . : 192.168.248.5(Preferred)
   Subnet Mask . . . . : 255.255.255.0
   Default Gateway . . . . : 192.168.248.2
   DHCPv6 IAID . . . . : 100666409
   DHCPv6 Client DUID. . . . . : 00-01-00-01-2B-97-09-21-00-0C-29-1D-9D-F3
   DNS Servers . . . . : ::1
                                       192.168.248.2
                                       127.0.0.1
   NetBIOS over Tcpip. . . . . : Enabled

Windows IP Configuration

   Host Name . . . . : VM-DC1

   Primary Dns Suffix . . . . : student.wou.home

   Node Type . . . . : Hybrid

   IP Routing Enabled. . . . . : No

   WINS Proxy Enabled. . . . . : No

   DNS Suffix Search List. . . . . . : student.wou.home

Ethernet adapter Ethernet0:

Connection-specific DNS Suffix . :

Description . . . . : Intel(R) 82574L Gigabit Network Connection

Physical Address. . . . . : 00-0C-29-1D-9D-F3

DHCP Enabled. . . . . : No

Autoconfiguration Enabled . . . . : Yes

Link-local IPv6 Address . . . . . : fe80::2e:b698:8144:74ca%14(Preferred)

IPv4 Address. . . . . : 192.168.248.5(Preferred)

Subnet Mask . . . . : 255.255.255.0

Default Gateway . . . . : 192.168.248.2

DHCPv6 IAID . . . . : 100666409

DHCPv6 Client DUID. . . . . : 00-01-00-01-2B-97-09-21-00-0C-29-1D-9D-F3

DNS Servers . . . . : ::1

192.168.248.2

127.0.0.1

NetBIOS over Tcpip. . . . . : Enabled

SQLServerDB

No Pass

Accounts:

sqldev

Tango01

VM-SQL1\SQLServerDB

1diJ40Cap7jcHxYuplLw

```
Windows IP Configuration

   Host Name . . . . . . . . . . . . : VM-SQL1
   Primary Dns Suffix  . . . . . . . : student.wou.home
   Node Type . . . . . . . . . . . . : Hybrid
   IP Routing Enabled. . . . . . . . : No
   WINS Proxy Enabled. . . . . . . . : No
   DNS Suffix Search List. . . . . . : student.wou.home

Ethernet adapter Ethernet0:

   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Intel(R) 82574L Gigabit Network Connection
   Physical Address. . . . . . . . . : 00-0C-29-31-7C-07
   DHCP Enabled. . . . . . . . . . . : No
   Autoconfiguration Enabled . . . . : Yes
   Link-local IPv6 Address . . . . . : fe80::48c4:1cc9:56d3:abc9%8(Preferred)
   IPv4 Address. . . . . . . . . . . : 192.168.248.10(Preferred)
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 192.168.248.2
   DHCPv6 IAID . . . . . . . . . . . : 100666409
   DHCPv6 Client DUID. . . . . . . . : 00-01-00-01-2B-97-08-6B-00-0C-29-31-7C-07
   DNS Servers . . . . . . . . . . . : 192.168.248.5
   NetBIOS over Tcpip. . . . . . . . : Enabled
```

Microsoft SQL Server 2022 Setup Discovery Report

Product	Instance	Instance ID	Feature	Language	Edition	Version	Clustered	Configured
Microsoft SQL Server 2022	SQLEXPRESS	MSSQL16.SQLEXPRESS	Database Engine Services	1033	Express Edition	16.0.1000.6	No	Yes
Microsoft SQL Server 2022	MSSQLSERVER	MSSQL16.MSSQLSERVER	Database Engine Services	1033	Express Edition	16.0.1000.6	No	Yes
Microsoft SQL Server 2022	MSSQLSERVER	MSSQL16.MSSQLSERVER	SQL Server Replication	1033	Express Edition	16.0.1000.6	No	Yes
Microsoft SQL Server 2022	MSSQLSERVER	MSSQL16.MSSQLSERVER	Full-Text and Semantic Extractions for Search	1033	Express Edition	16.0.1000.6	No	Yes
Microsoft SQL Server 2022	MSSQLSERVER	MSSQL16.MSSQLSERVER	Machine Learning Services and Language Extensions	1033	Express Edition	16.0.1000.6	No	Yes

1. Created a windows server 2022 VM in VMWare VM-DC1 to promote to domain controller.
2. Created VM-SQL1 to install SQL server, SSMS and SSRS on it and add a db instance.
3. Installed SQL Server 2022 to setup the accounts, instance, and dependencies.

SQL Server 2022 Setup   —   □   ×

Server Configuration

   Specify the service accounts and collation configuration.

Global Rules
Microsoft Update   Service Accounts   Collation
Product Updates
Install Setup Files   Microsoft recommends that you use a separate account for each SQL Server service.
Install Rules
Installation Type

Service	Account Name	Password	Startup Type
SQL Server Database Engine	NT Service\MSSQL$ISWOU		Automatic
SQL Server Launchpad	NT Service\MSSQLLaunchpad$ISWOU		Automatic
SQL Full-text Filter Daemon Launcher	NT Service\MSSQLFDLauncher$ISWOU		Manual
SQL Server Browser	NT AUTHORITY\LOCALSERVICE		Disabled

License Terms
Feature Selection
Feature Rules
Instance Configuration   ☐ Grant Perform Volume Maintenance Tasks privilege to SQL Server Database Engine Service
Server Configuration
Database Engine Configuration   This privilege enables instant file initialization by avoiding zeroing of data pages. This may lead to information disclosure by allowing
Feature Configuration Rules   deleted content to be accessed.
Installation Progress
Complete   Click here for details

4. Added ISDev domain

SQL Server 2022 Setup

Select Users, Computers, Service Accounts, or Groups ✕

Select this object type:

| Users, Service Accounts, Groups, or Built-in security principals | Object Types... |

From this location:

| Entire Directory | Locations... |

Enter the object names to select (examples):

| ISDev (ISDev@student.wou.home) | Check Names |

Advanced...   OK   Cancel

...ectories, TempDB, Max degree of parallelism, Memory limits, and Filestream

pDB Memory User Instances FILESTREAM

istrators for the Database Engine.

and Windows authentication)

Feature Selection

Feature Rules

Instance Configuration

Server Configuration

Database Engine Configuration

Feature Configuration Rules

Installation Progress

Complete

Specify the password for the SQL Server system administrator (sa) account.

Enter password:

Confirm password:

Specify SQL Server administrators

| VM-SQL1\SQLServerDB (SQLServerDB) |

SQL Server administrators have unrestricted access to the Datab...

Add Current User   Add...   Remove

Specify SQL Server administrators

| VM-SQL1\SQLServerDB (SQLServerDB) |
| STUDENT\ISDev (ISDev) |

SQL Server a

Add Current User   Add...   Remove

5. Finalized

SQL Server 2022 Setup

Complete

Your SQL Server 2022 installation completed successfully with product updates.

Global Rules	Information about the Setup operation or possible next steps:
Microsoft Update	
Product Updates	

Feature	Status
Full-Text and Semantic Extractions for Search	Succeeded
Machine Learning Services and Language Extensions	Succeeded
Database Engine Services	Succeeded
SQL Server Replication	Succeeded

Install Setup Files
Install Rules
Installation Type
License Terms
Feature Selection
Feature Rules
Instance Configuration
Server Configuration
Database Engine Configuration

Details:

Feature Configuration Rules

Install successful.

Installation Progress

Complete

6. Then verified the service as a server in sql server configuration manager. You can see I had created two instances one default SQLEXPRESS and the other ISWOU

7. Then I had to enable TCP/IP under SQL Server Network configuration > Protocols for MSSQLSERVER

8. Created Inbound firewall rule to allow port 1433 otherwise I can't connect to the db instance

9. The SQL account was used for the SSMS connection
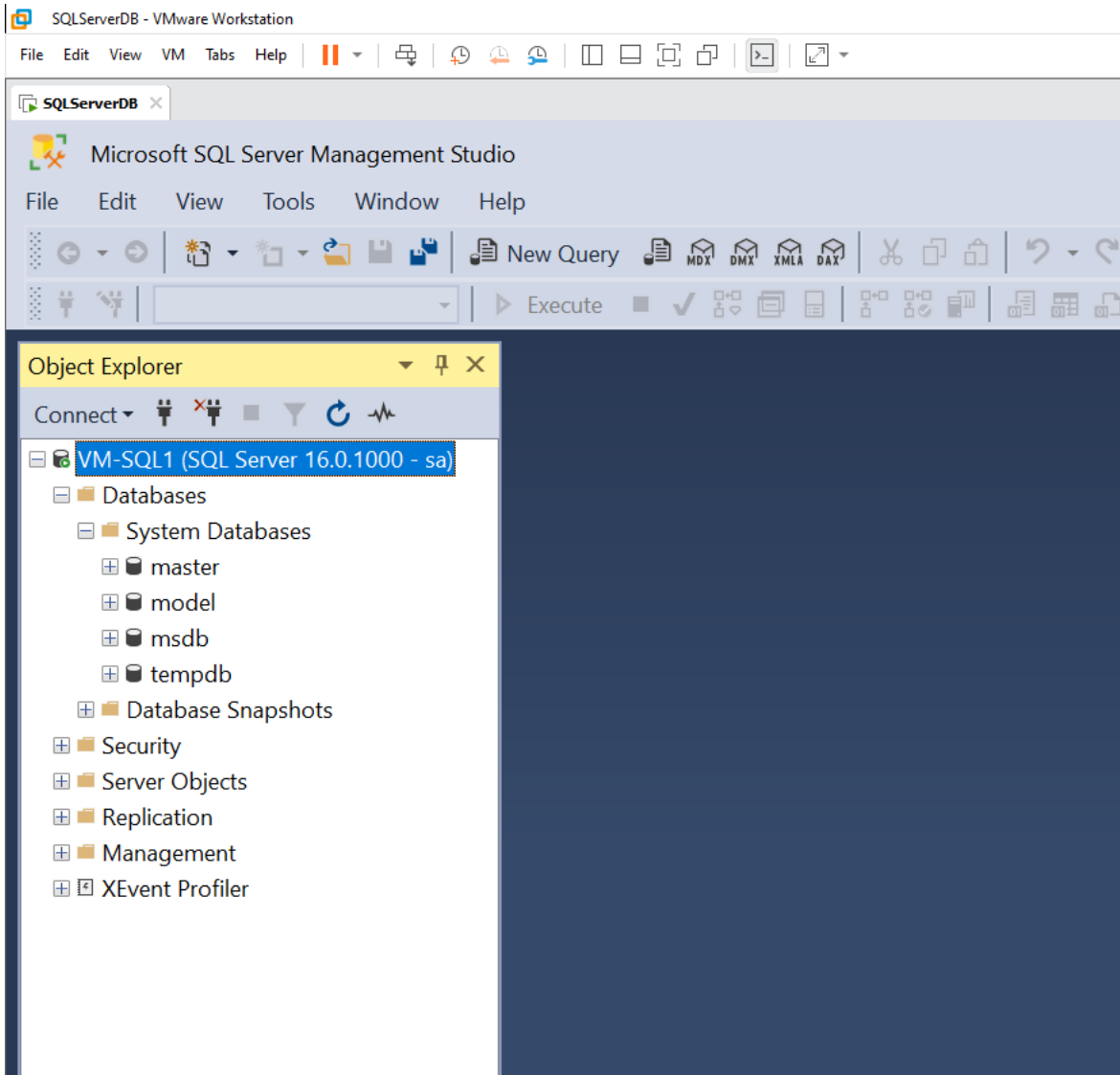
10. I need to import the VideoStore database code by creating a new database.
11. I right clicked on the MovieStoreDB and selected New Query
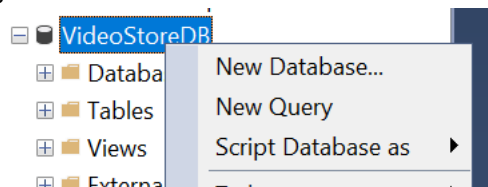
12. Then inject the SQL code in VideoStoreDB yet since the database video store was created in SSMS, I will use that then follow with injection execution commands.

13. It did not take long to execute the injection query.
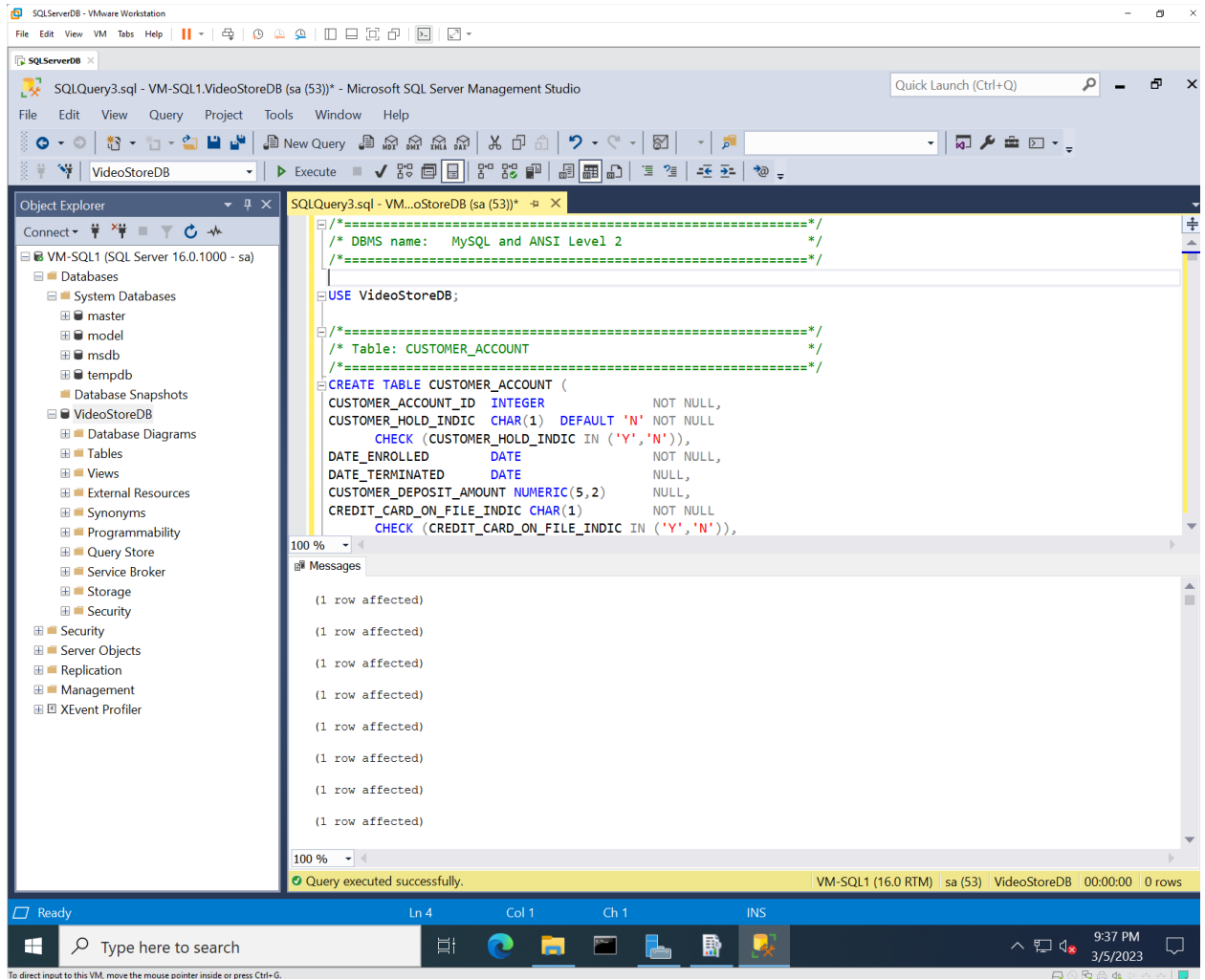
14. I double check the tables and columns and run a query to return all data within the table

15. Perfect, now I am able to begin the SSRS integration before the web search applications
16. In SSRS configuration manager and connected to the SQL server VM-SQL1
17. The sqldev account can be used as the service account or not. I use ISDev

18. Then in Database I entered the instance admin credentials and tested connection
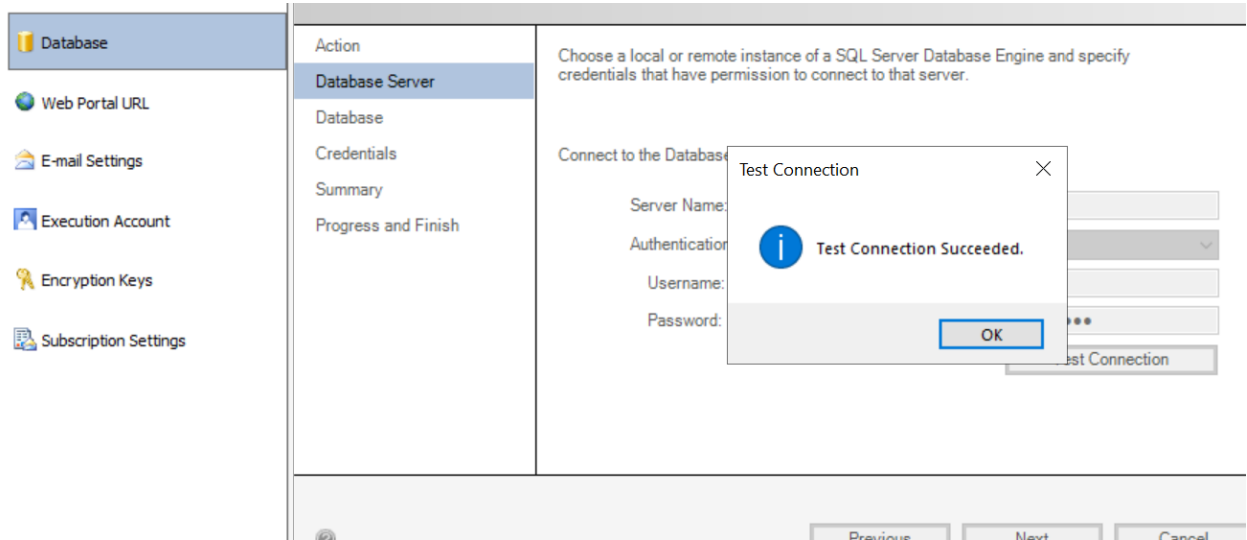
19. Followed the promp by entering database name "ISProject" and credential authentication will be the service account credentials
20. Ensured the process is successful
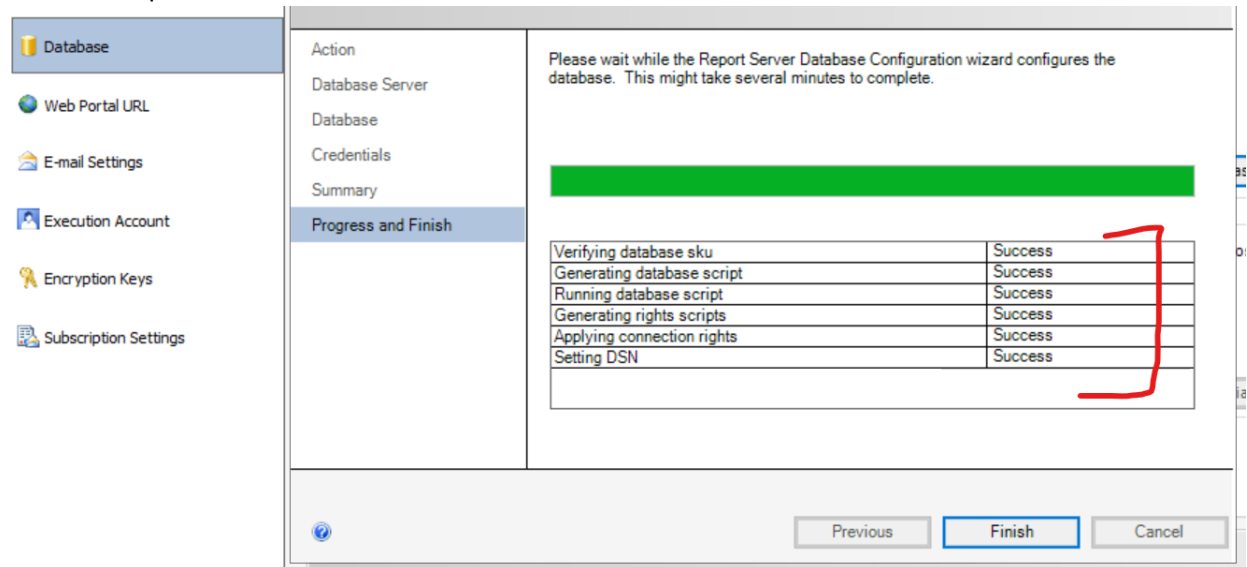
21. Now the Web Service URL must be established before the Web Portal URL. TCP Port is 80 because I do not have a cert for HTTPS yet this can be changed at a later time

22. In Web Portal URL I clicked apply and ensure the process is successfull

23. I used the default directories for both web service and portal
24. Now I need to test both web links. Therefore, I initiated them to ensure I can see a connection and typed the admin password which is the DC1 admins password since VM-SQL1 is in the domain. However, once I setup and delegate access permissions then I could log in to SSRS or use the web interface as another user with less access.
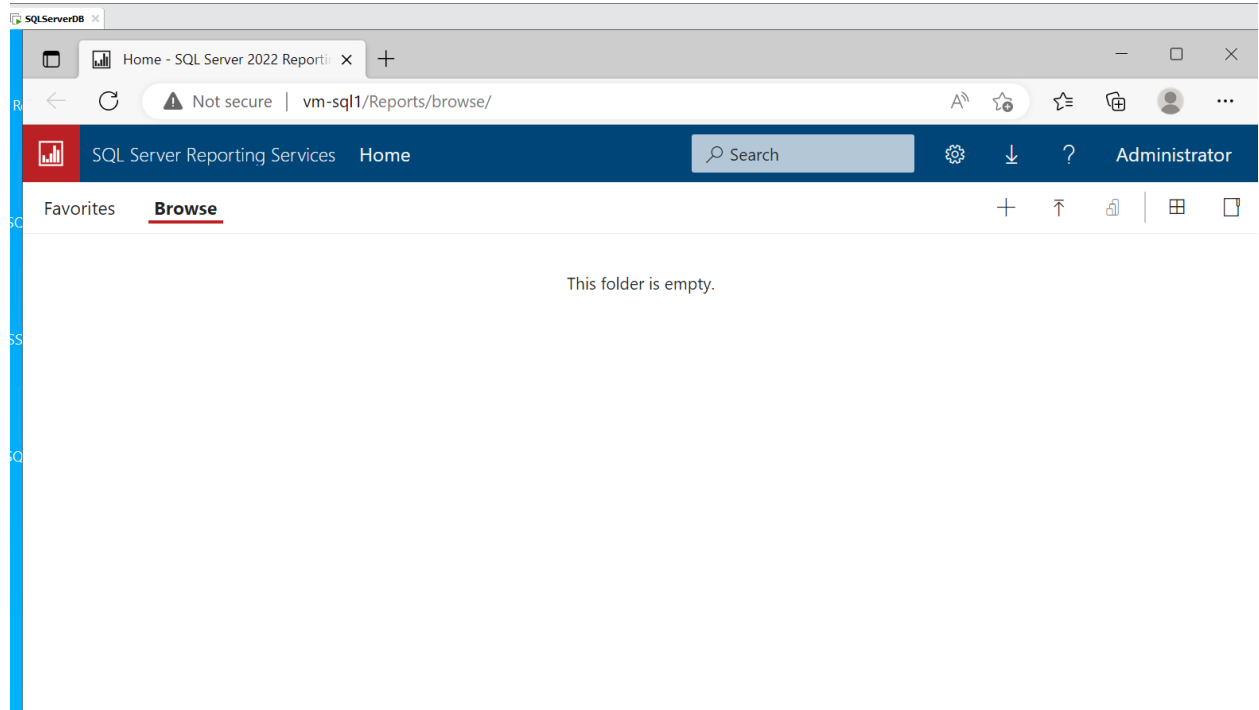
25. The administrator account is to apply or remove access where needed for admins to use. In this case since I am doing this project, I am using domain admin to not bottleneck my movement.
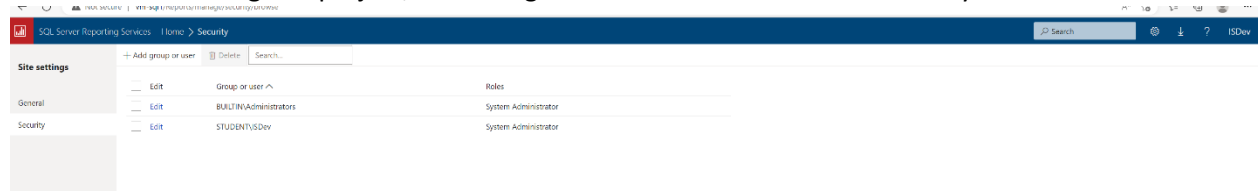
26. Setup Windows 10 Education VM with Visual Studio Enterprise 2022

27. Install SQL Server Data Tools in Visual Studio in the W10 host.

28. Setup connections in VS to SSRS database reports then apply configuration properties.

29. Open VS and start a Report Server Project

30. Right click on Reports and select New Item
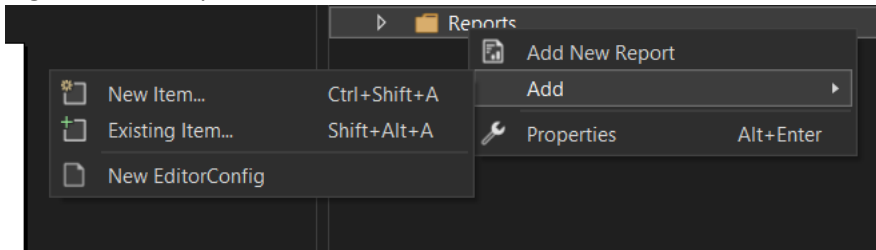
31. Then Select Report

32. Right click on Data Sources and Add Data Source
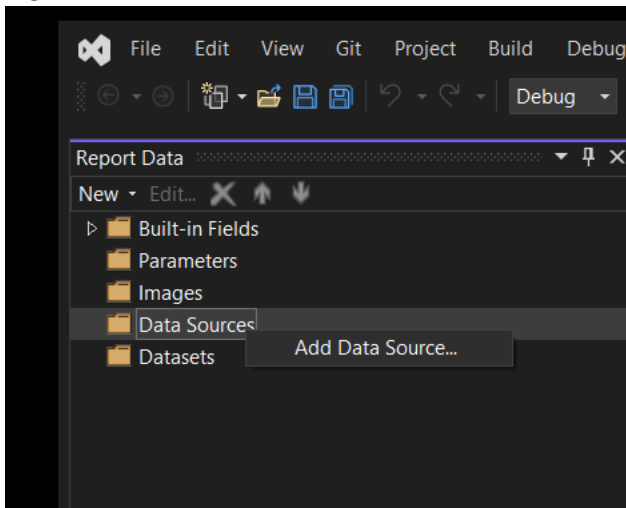
33. I named it ISProjectDB then select Build on the lower right

34. Data Source is Microsoft SQL Server, Server name is VM-SQL1 (I created it in the SQL server previously)

35. Then select a database to connect to using SQL Server Authentication which is the sa account and password

36. Once authenticated we can view the databases and I selected VideoStoreDB
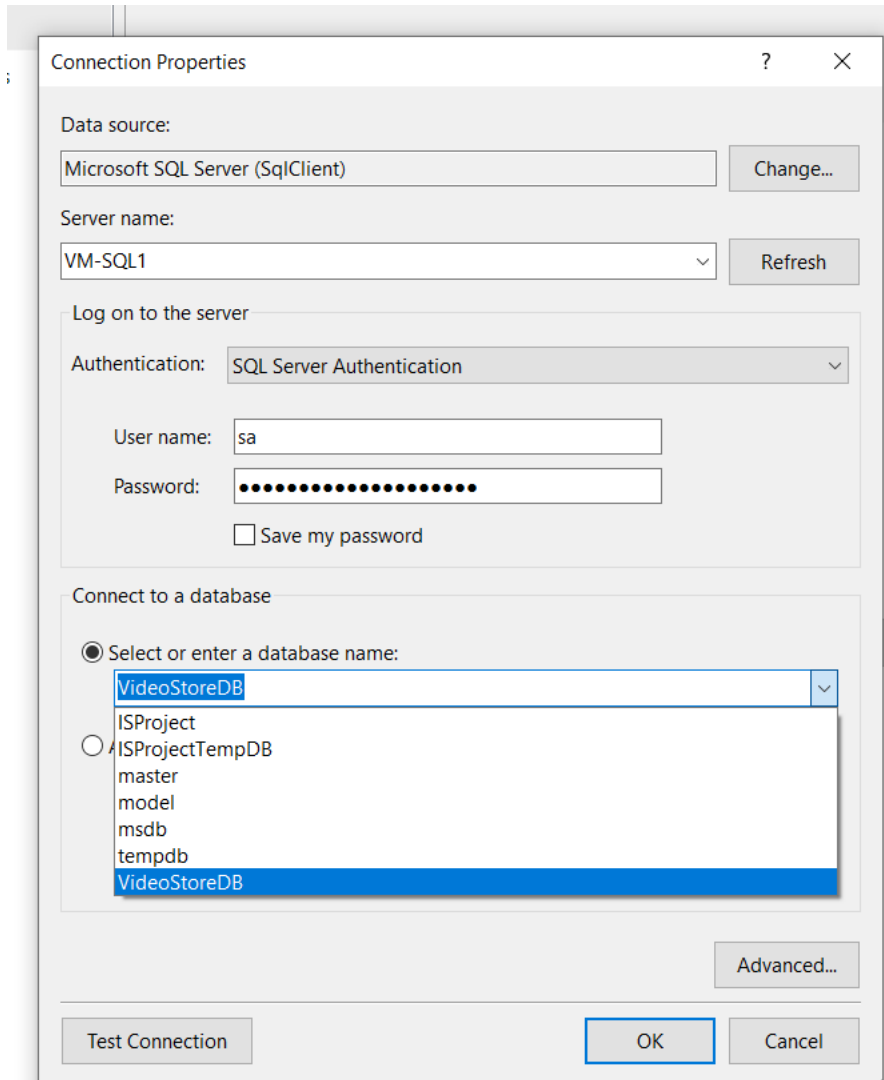
37. Test connection to make sure it succeeded then press ok, ok
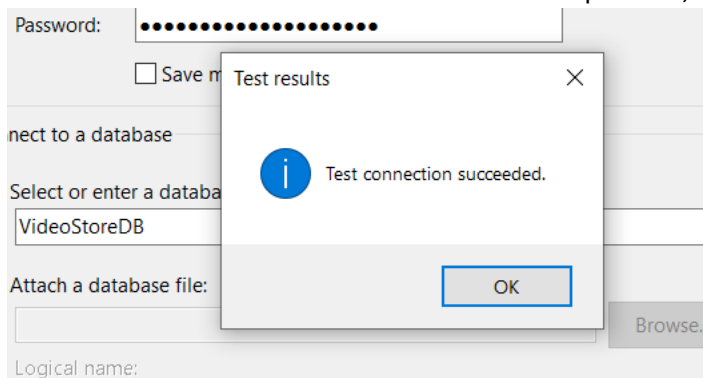
38. Now we can run a small test before we begin a web report.

39. Add a dataset and select Use a dataset embedded in my report and make sure it is the ISProjectDB data source

40. Then go to Query Designer to add code.

41. I create an easy SELECT SQL query to run.
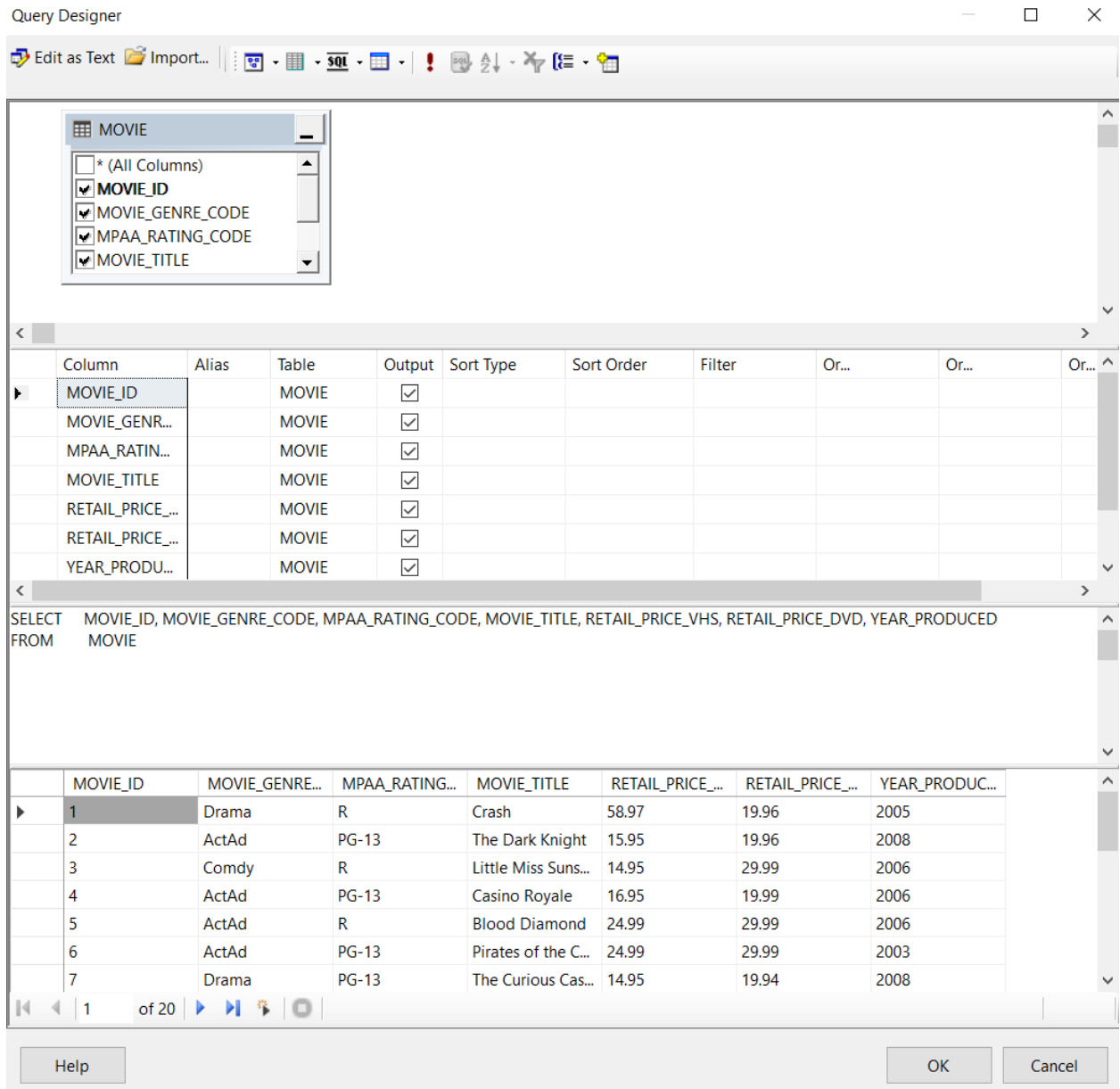
42. In query designer when I add "SELECT * FROM Movie" it will inset all the column titles. Then insert those values to the dataset like so
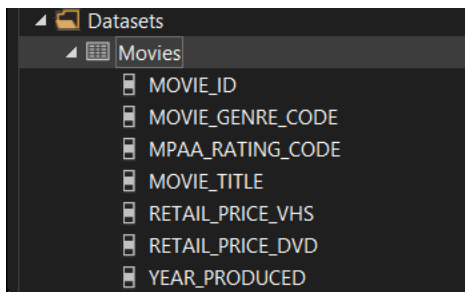
43. It is working! Let's push this to the ssrs server! Before that I have to add a parameter and table in order for a user or myself have the ability to search for movies on the web from any computer as long as it is in the domain, has access or permissions to the server, even across a vpn if it is setup that way.

44. Right click on the white space to add a table
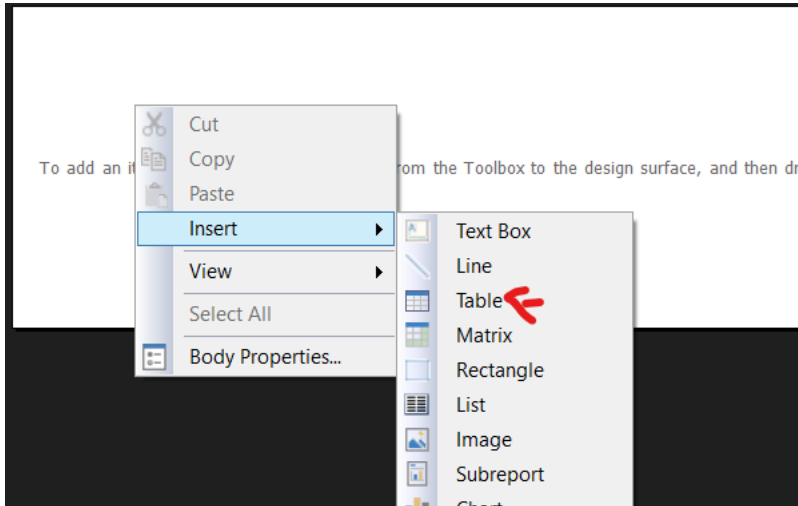
45. I added a title and now I just need to add the values I want the query to pull
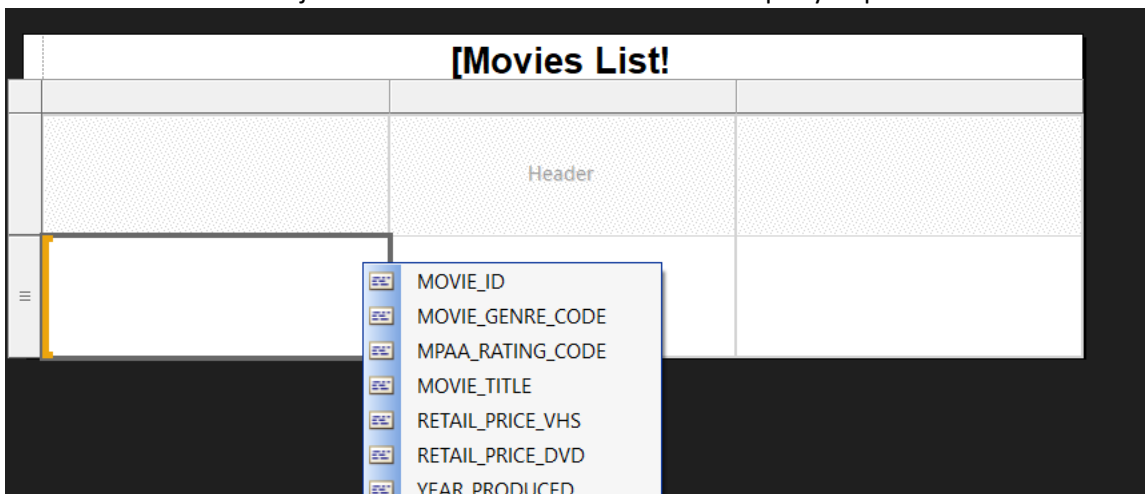
46. Lets go with Movie title, vhs and dvd price

47. Also we can add expressions for the text box, we can add expressions anywhere like header and footer to show page numbers or the same title across different pages. For now I just want to keep it simple.

48. Under parameters right click and add a new parameter then named it Movie and prompt it for Search for Movies

49. However, when I ask it to pull for values, it lists many values but I can only select one. The reason for that is because I only had one dataset called Movies with many values.

50. I have to create a new dataset and named it SearchMovies

Name:

SearchMovies

○ Use a shared dataset.
◉ Use a dataset embedded in my report.

Data source:

ISProjectDB

Query type:

◉ Text   ○ Table   ○ Stored Procedure

Query:

SELECT DISTINCT MOVIE_TITLE AS MovieTitle
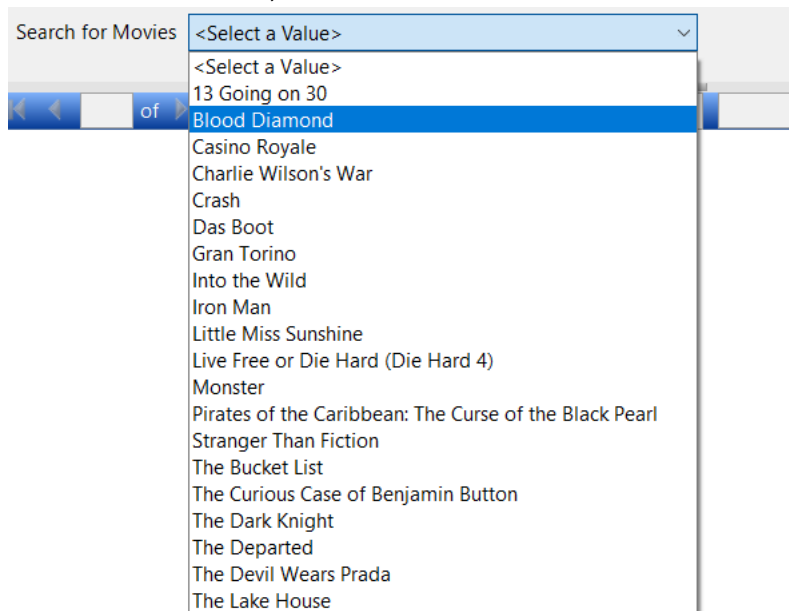FROM   MOVIE
ORDER BY MovieTitle

51. Included a simple search for movies
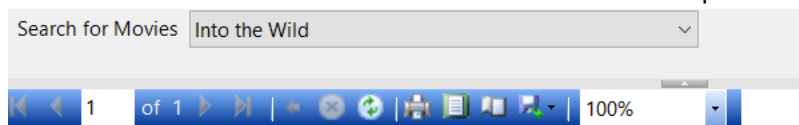52. In the Movie parameter now I've selected one value to return titles

Report Parameter Properties

General

Available Values

Default Values

Advanced

Choose the available values for this parameter.

Select from one of the following options:

○ None
○ Specify values
◉ Get values from a query

Dataset: (Warning: Possible performance impact)

SearchMovies

Value field:

MovieTitle

Label field:

MovieTitle

53. Next in Preview mode, I can search for movies! Here is the list

54. I selected the movie titled "Into The Wild" and view the report

55. Awesome! One thing to not forget to avoid displaying a full list even after selecting one value is to include the parameter for the query in the dataset

```
SELECT DISTINCT MOVIE_TITLE, RETAIL_PRICE_VHS, RETAIL_PRICE_DVD
FROM      MOVIE
WHERE Movie_Title = (@Movie)
```

56. One last thing before I deploy it is to add a Description within the Report Properties
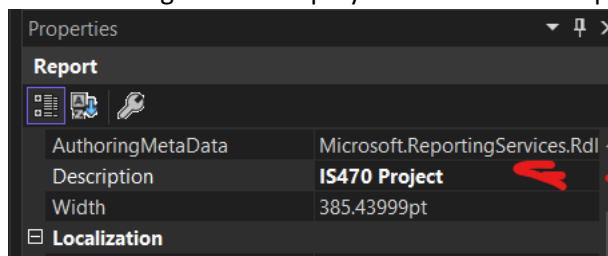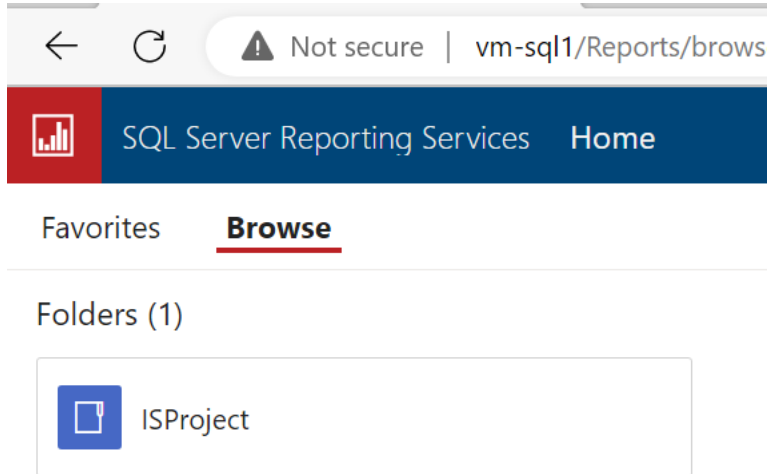

57. Now for the great moment! Push this out to development or test
58. Save all files first. Then I went back to the SSRS server which is the SQL virtual machine. To gather the URL

Report Server Web Service URLs

URLs: http://VM-SQL1:80/ReportServer

59. Then we also get the file directory where this report will be deployed to

60. I right clicked on ISProject the solution for the report. Then changed the TaretServerURL and TargetReportFolder to match what I had setup in VM-SQL1
61. I clicked OK and now right clicked on the report (changed the name to MovieList)
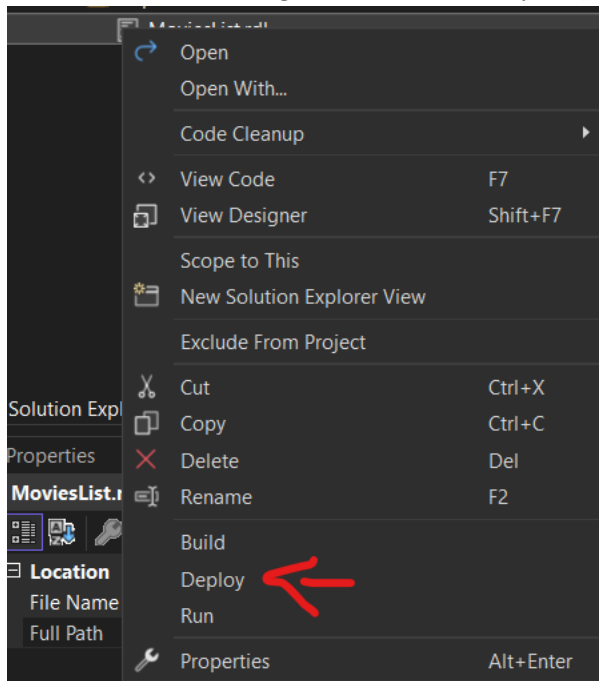
62. Then selected Deploy.

63. If we take a look at the SSRS web we can now see the data that was deployed

SQLServerDB - VMware Workstation 17 Player

Player

MoviesList - SQL Server 2022 Rep   ×   vm-sql1/ReportServer - /   ×   +

Not secure | vm-sql1/Reports/report/ISProject_Reports/MoviesList

SQL Server Reporting Services   Home > ISProject_Reports > MoviesList

Favorites   Browse

Search for Movies   Gran Torino

13 Going on 30
Blood Diamond
Casino Royale
Charlie Wilson's War
Crash
Das Boot
Gran Torino
Into the Wild
Iron Man
Little Miss Sunshine
Live Free or Die Hard (Die Hard 4)
Monster
Pirates of the Caribbean: The Curse of the Black Pearl
Stranger Than Fiction
The Bucket List
The Curious Case of Benjamin Button
The Dark Knight
The Departed
The Devil Wears Prada
The Lake House

100%

MOVIE TITLE

Gran Torino   24.99

64.
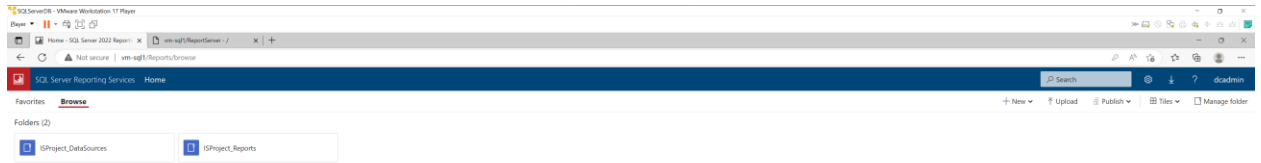
65. This is it. It is a long process, but this is the right way to set it up with a domain, the VMs separated not in the DC. Also, setting up security settings and configuring access. There is much more to do with it like setting up GitHub in VS and a repository with a dev, test, and prod branch. It can also be used with DevOps.