

SQL Moderation Hack – Database Migration and Parameters

V2.1

PROBLEM STATEMENT

You have 3 SQL Server 2008r2 Database(s) on a single Azure VM, used by an Application “Online Transaction Monitor”. The Databases and Application need to be migrated from SQL Server 2008r2 to latest versions of SQL Server. The business would like to minimize patching and maintenance for the future but maintain full functionality. However, the Application source code is lost, the only configuration change you can make is the Connection String.

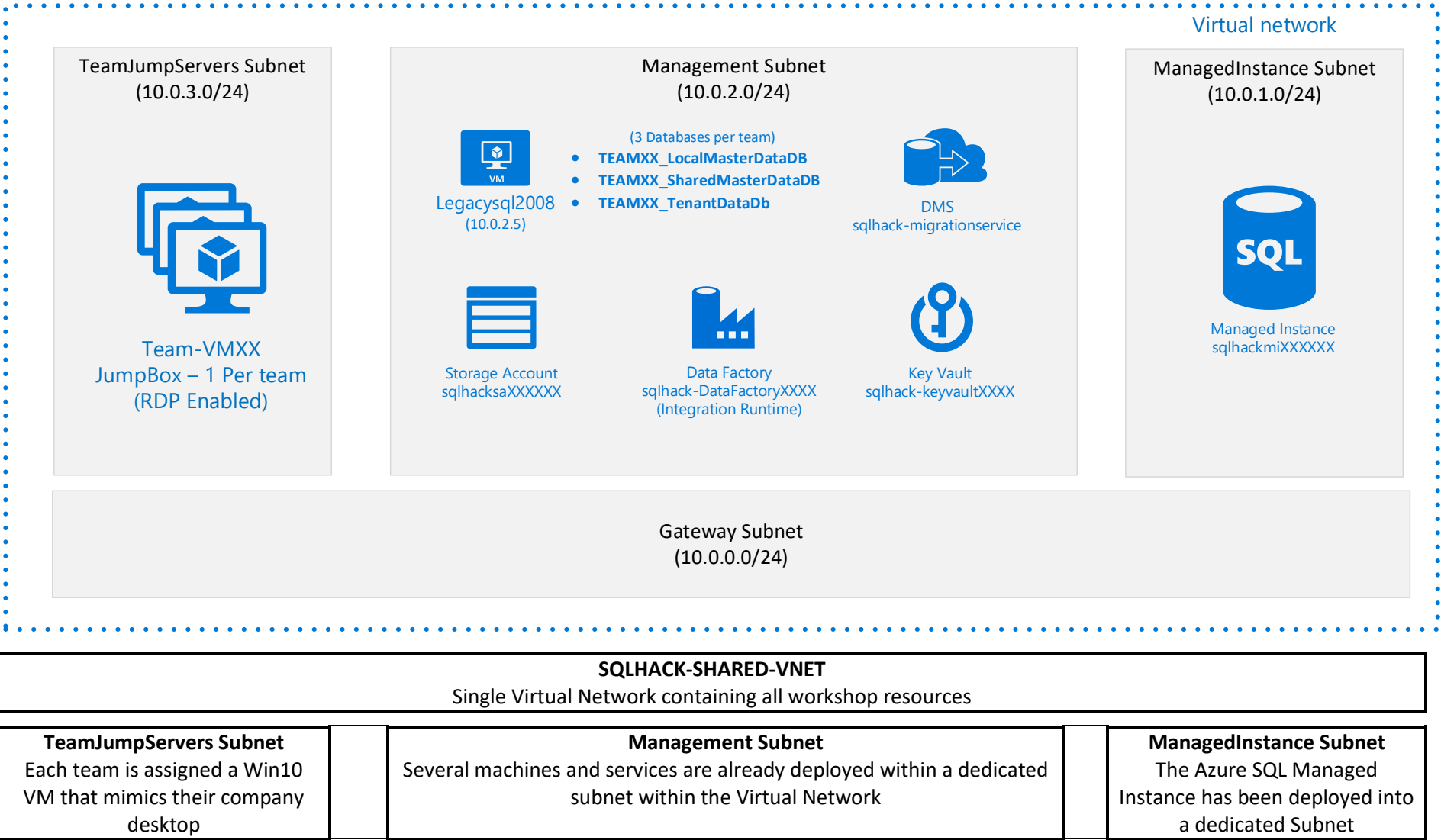
Task: Migrate Databases form SQL Server 2008r2 to suitable environment, with successful test of application, meeting all business objectives.

LAB INSTRUCTIONS

Time: 1 Hour

For Connection Strings and Passwords see LAB ENVIROMENT and APPENDIX

1. Test the Online Transaction Monitor with the databases held on SQL Server 2008R2 Legacy server (IP: 10.0.2.4) using your TEAM assigned databases and Login
2. Plan your 3 databases for migration, using the Database Migration Assistant. Are the Legacy Databases best suited for Azure SQL Database Single or Azure SQL Managed Instance?
3. Use the Database Migration Service to Migrate your 3 Databases and Login from the Legacy SQL Server 2008R2 to the Azure SQL Database
 - a. See Appendix for connection strings
 - b. SAS URI Key is available in C:_SQLHACK_\LABS\01-Data_Migration\SASKey.txt
 - c. Managed instance FQDN is in C:_SQLHACK_\LABS\01-Data_Migration\ ManagedInstanceFDQN.txt
4. Test your Migration by using the Setting screen to update the connection string (Instructions below)
5. Note any errors and work through SQL fixes held within C:_SQLHACK_\LABS\01-Data_Migration\Migration Helper Script.sql



NOTE: There are 20 workshop environments using a SHARED source SQL Server and target Azure SQL Database Managed Instance. Please be respectful of only migrating your teams Databases and Logins.

A STEP-BY-STEP SOLUTION GUIDE FOR THIS LAB IS AVAILABLE ON THE Win10 VMs IN:

C:_SQLHACK_\LABS\01-Data_Migration\DB Migration Lab Step-by-step.pdf

LAB ENVIROMENT

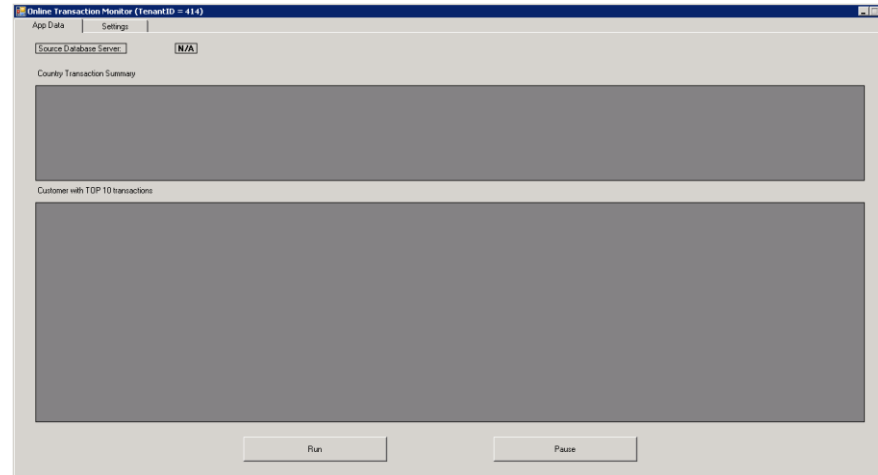
The lab environment has been setup for you to become familiar with an offline (restore from backup) database migration from SQL Server 2008 to Azure SQL Database Managed Instance. Offline migrations are the most common migration approach supported by Azure Database Migration Service (DMS).

During the workshop you will need to refer to a set of parameters that are specific to that workshop e.g. host IP addresses change every time we run the workshop.

For this reason please use the parameters shown in Appendix of this document which are specific to your workshop.

APPLICATION – Online Transaction Monitor

The Online Transaction Monitor is a simple application that lists the number of transactions for a given country. The data for this application is held in 3 databases on a SQL Server 2008 r2 Server.



These databases are named (replace XX with your team name):

- TEAMXX_LocalMasterDataDB
- TEAMXX_SharedMasterDataDB
- TEAMXX_TenantDataDb

The SQL Databases use CLR with an assembly embedded in the TEAMXX_TenantDataDb.

Additionally, the Application currently uses a SQL LOGIN which must also be considered. The Login is DB_Owner of each of the 3 TEAM databases only. The SQL Login for your team is:

| | |
|-------------------|--------|
| SQL Account Login | TEAMXX |
| Password | TEAMXX |

Changing the connection string

The Application can be configured through its setting screen:

Online Transaction Monitor (TenantID = 414)

App Data Settings

Build / change connection string

ServerName
[localhost]

Initial catalog
[TenantDataDB]

Username
[demoUser]

Password
[REDACTED]

Change Connection String

Connection String

Data Source=LEGACYSQL2008;Initial Catalog=TenantDataDB;Integrated Security=False;UserID=demoUser;Password=@BuildHandsOnLab2018;Application Name=UserTransactionsApp

The Settings that can be changed include:

| | |
|-------------------|---|
| Server name | LEGACYSQL2008 (or the IP Address of the SQL 2008 Server - see Appendix) |
| Initial Catalog | TEAMXX_TenantDataDb |
| SQL Account login | TEAMXX |
| Password | TEAMXX |

APPENDIX

Summary of Logins and Accounts Used

There are several different environments that you need to login/connect to during the labs. Sometimes you will need to login into the same environment with different accounts depending on what you are doing e.g. logging into SQL Server with a standard or sysadmin privileged account.

Here is a summary of all the accounts used in the labs and there uses:

| Username | Password | Used for | Machine Name/IP Address/Address/Instance Name |
|--|---|-----------------------------------|---|
| SQLHACK_TEAMXXxxx@OTAPRD730ops.onmicrosoft.com (See <i>SQLHack-AzureCredentials.xlsx</i>) | (See <i>SQLHack-AzureCredentials.xlsx</i>) | Team access to Azure portal | portal.azure.com |
| vm-TEAMXX\demouser | Demo@pass1234567 | Win10 VM windows login | vm-TEAMXX |
| LEGACYSQL2008\demouser | Demo@pass1234567 | Legacy SQL2008 windows login | LEGACYSQL2008 10.0.2.4 |
| TEAMXX | TEAMXX | Legacy SQL2008 SQL login | LEGACYSQL2008 (default SQL instance) |
| demouser | Demo@pass1234567 | Legacy SQL2008 SYSADMIN SQL login | LEGACYSQL2008 (default SQL instance) |
| demouser | Demo@pass1234567 | Azure SQL Managed Instance | use FQDN in \\<Win10 VM>\C:_SQLHACK_\LABS\01-Data_Migration\ManagedInstanceFDQN.txt |

Azure Portal

| | |
|------------------------------|---|
| Azure Portal URL | http://portal.azure.com |
| Azure Username | SQLHACK_TEAMXXxxx@OTAPRD730ops.onmicrosoft.com (See <i>SQLHack-AzureCredentials.xlsx</i>) |
| Azure User Password | (See <i>SQLHack-AzureCredentials.xlsx</i>) |
| Azure Resource Groups | SQLHACK-SHARED SQLHACK-TEAM-VMs |

Win10 Management VM

| | |
|---|--|
| IP Address (use this for connections) | (from Azure Portal note the IP address or download the RDP file) |
| Machine Name (Replace XX with Team number) | TEAMXX |
| Resource Group | SQLHACK-TEAM-VMs |
| Win10 Username: (Use for RDP'ing onto the Win10 VM) | Demouser |
| Win10 Password: (Use for RDP'ing onto the Win10 VM) | Demo@pass1234567 |

Source SQL Server (SQL 2008 VM Server)

| | |
|---|---|
| IP Address (use this for connections) | 10.0.2.4 |
| Server Name | LEGACYSQL2008 |
| Resource Group | SHARED |
| SQL Login Name: (Use for Application Connection) (Replace XX with Team number) | TEAMXX |
| SQL Login Password: (Use for Application Connection) (Replace XX with Team number) | TEAMXX |
| Databases: (Replace XX with Team number) | <ul style="list-style-type: none"> • TEAMXX_LocalMasterDataDB • TEAMXX_SharedMasterDataDB • TEAMXX_TenantDataDb |

Target SQL Server (Azure SQL Managed Instance)

| | |
|---|---|
| IP Address (use this for connections) | See text file on your Win10 VM: C:_SQLHACK_\LABS\01-Data_Migration\ ManagedInstanceFDQN.txt |
| Server Name | Sqlhackmi |
| Resource Group | SQLHACK-SHARED |
| Sysadmin Login Name: (Use for Migrations) | Demouser |
| Admin Login Password: | Demo@pass1234567 |

Database Migration Service

| | |
|---|--|
| Service Name | sqlhack-migrationservice |
| Resource Group | SQLHACK-SHARED |
| Migration Project Name (Replace XX with Team number) | TEAM XX |
| Target Server Type | Azure SQL Managed Instance |
| Migration Source SQL Instance Name | 10.0.2.4 |
| User Name | demouser |
| Password | Demo@pass1234567 |
| Encrypt Connections | No |
| Target Server Name | Sqlhackmi.XXXXXXX.database.windows.net <i>See C:_SQLHACK_\LABS\01-Data_Migration\ ManagedInstanceFDQN.txt</i> |
| User Name | demouser |
| Password | Demo@pass1234567 |
| Source Databases (3 Database only) (Chose only those related to your Team number) | <ul style="list-style-type: none"> • TEAMXX_LocalMasterDataDB • TEAMXX_SharedMasterDataDB • TEAMXX_TenantDataDb |
| Select Logins (1 Login Only) (Chose only those related to your Team number) | TEAMXX |
| Chose Backup Option | I will Let Azure Database Migration Service create Backup files |
| Backup Settings – Network Share Location | \\10.0.2.4\FILESHARE |
| Backup Settings – Windows User to impersonate | legacysql2008\demouser |
| Backup Settings – Windows Password | Demo@pass1234567 |
| Storage Account Settings – SAS URI | See File C:_SQLHACK_\LABS\01-Data_Migration\SASKey.txt |

