**CMF - MySQL   
Info-Gathering**

**of Azure Database for   
MySQL - Single Server /  
On-Premises / Azure VM / Other Cloud MySQL workload to Azure Database for MySQL - Flexible Server****- User Guide**

A person sitting at a table using a computer with a woman looking over his shoulder.

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Disclaimer: These scripts are intended for use of Info Gather Assessment utility and do not interact with the user databases or gather any sensitive information (e.g. passwords, PI data etc.). These scripts are provided as-is to merely capture metadata information ONLY. While every effort has been made to ensure that accuracy and reliability of the scripts, it is recommended to review and test them in a non-production environment before deploying them in a production environment. It is important to note that these scripts should be modified with the consultation of Microsoft.

**Document Summary**

|  |  |
| --- | --- |
| **Document Item** | **Current Value** |
| Document Title | CMF - MySQL Info-Gathering of Azure Database for MySQL – Single Server / On-Premises / Azure VM / Other Cloud MySQL workload to Azure Database for MySQL - Flexible Server - User Guide |
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**Revision History**

This section represents the change history of the document. Revisions of the document must be tracked by identifying a new version number, the date it was modified, the person making the change, and the reason for the change.

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# **Objective**

This document provides the procedure/steps to execute the Automation script

(**CMF-MySQL-CLI-Windows.ps1, CMF-MySQL-CLI-Linux.ps1, CMF-MySQL-Windows.ps1,**

**CMF-MySQL-Linux.ps1, MySQL\_Azure\_SingleServer\_to\_Flexible.ps1**) which gathers the MySQL Server details from Azure, Windows, Linux, and steps for SS to FS Migration.

**Note**: This Automation Script does not fetch/access any of the user database data. The values present in the Screenshots are demo values. Please change the values as Appropriate.

# **Roles and Responsibilities**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Task | Responsible | Accountable | Consulted | Informed |
| Info-Gather | Customer/CMF | PM | CMF | PM/CMF |

# **Prerequisites for MySQL Server Info gathering script execution**

## **Operating System Requirements**

* Supported Operating System
  + Windows 10, Windows Server 2012, Windows Server 2012 R2 and above
  + Linux - RHEL v7 & above, Ubuntu v14 & above

## **Software requirements**

* MySQL Client 5.6 and above
* Azure CLI (To gather Azure Database for MySQL single server metadata)
* PowerShell 5.1 and above.

# **Procedure**

## **MySQL Info-Gathering on Windows Server**

### Azure Database for MySQL - Single Server Info-Gathering (**CMF-MySQL-CLI-Windows.ps1**)

#### Scripts Folder

* Unzip the **MySQL-Info-Gather** zip file received by CMF team.

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#### Renaming Scripts

* Execute the following command in MySQL-Info-Gather folder to rename the scripts from .txt to .ps1 on Windows Command Prompt.

rename rename-windows.txt rename-windows.bat

* Execute rename.bat file.

rename-windows.bat

#### Preparing the INPUT CSV File- Azure\_Subscription.csv

* In Order to support the Info Gathering process, INPUT CSV FILE (**Azure\_Subscription.csv**) should be provided with Azure Subscription data.
* Each column will represent an Azure Subscription detail for Azure MySQL Single Server Info Gathering

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#### Script execution (**CMF-MySQL-CLI-Windows.ps1**)

* Open windows Command prompt as **Administrator**
* Change the working directory/folder to the folder MySQL-Info-Gather where the scripts are present.
* Enter the following command at the windows command prompt to execute the info-gather script.

**Powershell.exe -ExecutionPolicy Bypass -File .\CMF-MySQL-CLI-Windows.ps1**

#### Create support folders(Logs, Output, Downloads etc)

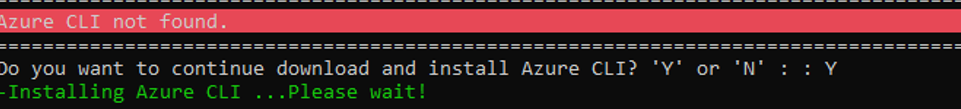
* After triggering the automation all the support folders (Logs, Output, Download etc.) will be created automatically by the automation script in the MySQL-Info-Gather folder

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#### Validate Azure CLI

* Automation script validates the Azure CLI. If not found, automation will initiate installation.



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* Once Azure CLI Installation completes successfully and if you encounter the above error message kindly close the Command Prompt and validate Azure CLI by re-running the automation script again.

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* PowerShell version and Azure CLI are validated successfully.

#### Azure Portal authentication

* Automation requires Azure portal authentication.

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#### Export Info-Gathering details and generating JSON files.

* Once Azure portal authentication is successful, Automation gathers MySQL Single server details to update them in csv files. Also, Azure MySQL CLI’s commands output will be exported to JSON files.
* The JSON files can be found in the Folder Output 🡪 Single.A screen shot of a computer

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#### Azure MySQL Single Server JSON output

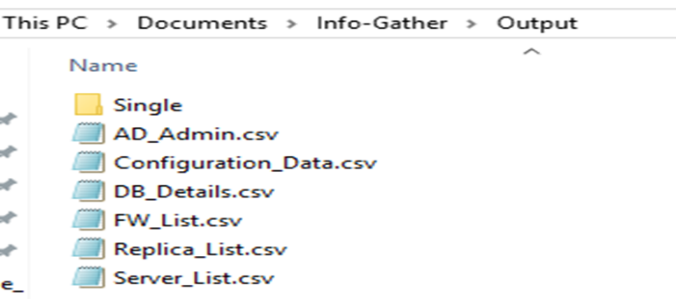
* The Following JSON output files will be generated for each Azure MySQL Single Server from the given Azure subscription.

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#### Azure MySQL Single Server CSV output

* CSV files will be generated for all the MySQL Single Server/Instance(s) from the given Azure subscription. Azure CLI’s output are as follows.



**Note:** Output files will be generated in CSV format as above

**Note:** Please share compressed Output and Logs Folder to CMF team

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#### Automation Script Transcript Log

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**Note:** For the Automation, transcript will be generated in text format as above

### MySQL Server Info-Gathering (**CMF-MySQL-Windows.ps1**)

#### Scripts Folder

* Unzip the **MySQL-Info-Gather** zip file received by CMF team.

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#### Renaming Scripts

* Execute the following command in MySQL-Info-Gather folder to rename the scripts from .txt to .ps1 on **Windows** Command Prompt.

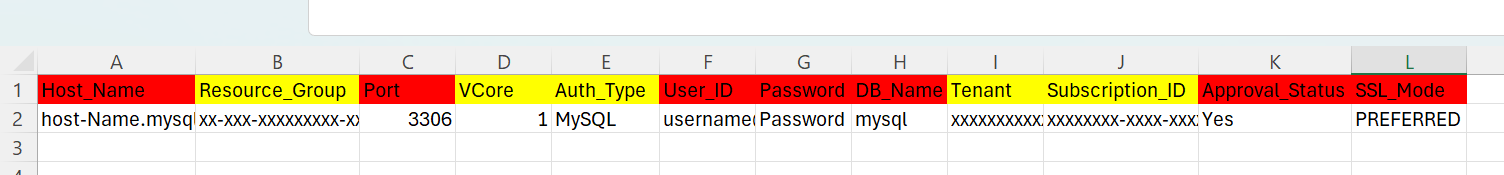
rename rename.txt rename.bat

* Execute rename.bat file.

rename.bat

#### Preparing the INPUT CSV file (**CMF-MySQL\_Server\_Input\_file.csv**)

* In Order to support the Info Gathering process, INPUT CSV FILE   
  (**CMF-MySQL\_Server\_Input\_file.csv**) should be provided with MySQL Server details.
* Provide the Mandatory fields highlighted in red color.



#### Script execution (**CMF-MySQL-Windows.ps1**)

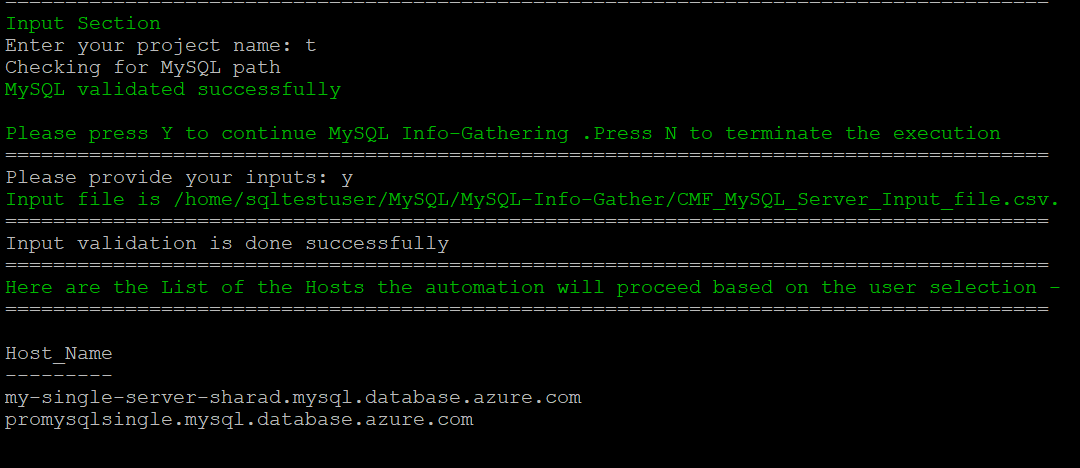
* Open windows Command prompt as **Administrator**
* Change the working directory/folder to the folder MySQL-Info-Gather where the scripts are present.
* Enter the following command at the windows command prompt.

**Powershell.exe -ExecutionPolicy Bypass -File .\CMF-MySQL-Windows.ps1**

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**Note:** After triggering the automation all the support folders (Logs, Output, Downloads etc.) will be created automatically by the automation script, mysql path is validated, and it will ask user to proceed with the execution of the script.



* The script then Validates the list of approved Hosts to proceed with execution. Continue by Entering “Y” and provide your Project Name. You’ll get below final status of the script execution.
* Please Enter “Y” to perform Info Gathering of Hosts above, otherwise Enter ‘N’ to terminate the execution.

**Note:** Ensure you add the location of psql.exe to your Path environment variables

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#### Export Info-Gathering details and generating output log files.

* Output log files are generated for each MySQL Server as shown in the Output Folder below.

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#### Automation Script Transcript Log

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**Note:** For the Automation, transcript will be generated in text format as above

**Note:** Please Share the Compressed Output and Logs Folder with the CMF Team.

## **MySQL Server Info-Gathering on Linux Server**

### Azure Database for MySQL - Single Server Info-Gathering (**CMF-MySQL-CLI-Linux.ps1**)

#### Scripts Folder

* Unzip the **MySQL-Info-Gather** zip file received by CMF Team

**Commands:** unzip filename.zip

cd MySQL-Info-Gather /

ls -lrt

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#### Renaming Scripts

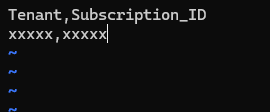
* Execute the following command in MySQL folder to rename the scripts from .txt to .ps1

dos2unix ./rename-linux.txt

sh rename-linux.txt

#### Preparing the INPUT CSV File - Azure\_Subscription.csv

* In Order to support the Info Gathering process, INPUT CSV FILE (**Azure\_Subscription.csv)** should be provided with Azure Subscription data.
* Each column will represent an Azure Subscription detail for Azure MySQL Single Server Info Gathering

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#### Script Execution

* Open Terminal window
* Change the working directory/folder to the folder **MySQL-Info-Gather** where the scripts are present.
* Enter the following command in the terminal to execute the info-gather script.

**For Linux:**

**pwsh ./CMF-MySQL-CLI-Linux.ps1**

#### Create support folders (Logs, Output, Downloads etc)

* After triggering the automation all the support folders (Logs, Output, Download etc.) will be created automatically by the automation script in the MySQL-Info-Gather folder

A screenshot of a computer

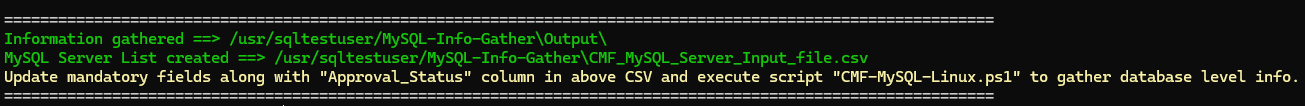
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* PowerShell version and Azure CLI are validated.
* Automation script validates the Azure CLI. If not found, automation will initiate installation
* Automation requires the Azure portal authentication
* Copy the device login URL and code to authenticate

****

#### Export Info-Gathering details and generating JSON files

* Once Azure portal authentication is successful, Automation gathers Azure MySQL Single Server details to update them in csv files. Also, Azure CLI’s MySQL commands output will be exported to JSON file.
* The JSON files can be found i
* n the Folder Output 🡪 Single



#### Azure MySQL Single Server JSON output

* The Following JSON output file will be generated and contains the list of all Azure MySQL Single Server from the given Azure subscription.



#### Azure MySQL Single Server CSV output

* CSV files will be generated for all the MySQL Single Server/Instance(s) from the given Azure subscription. Azure CLI’s output are as follows,

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**Note:**   
 Output files will be generated in csv format as above.

Please share compressed Output & Logs folder with CMF Team.

#### Automation Script Transcript Log



**Note:** For the Automation, transcript will be generated in text format as above

### MySQL Server Info-Gathering (**CMF-MySQL-Linux.ps1**)

#### Script Folder

* Unzip the **MySQL-Info-Gather** zip file received by CMF Team

**Commands:**   unzip filename.zip

    cd /MySQL-Info-Gather

                       ls -lrt

A screenshot of a computer

Description automatically generated

#### Renaming Scripts

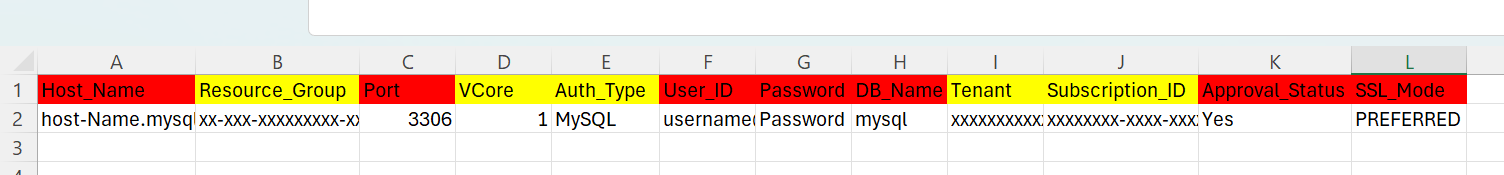
* Execute the following command in MySQL folder to rename the scripts from .txt to .ps1

dos2unix ./rename-linux.txt

sh rename-linux.txt

#### Preparing the INPUT CSV file (**CMF-MySQL\_Server\_Input\_file.csv)**

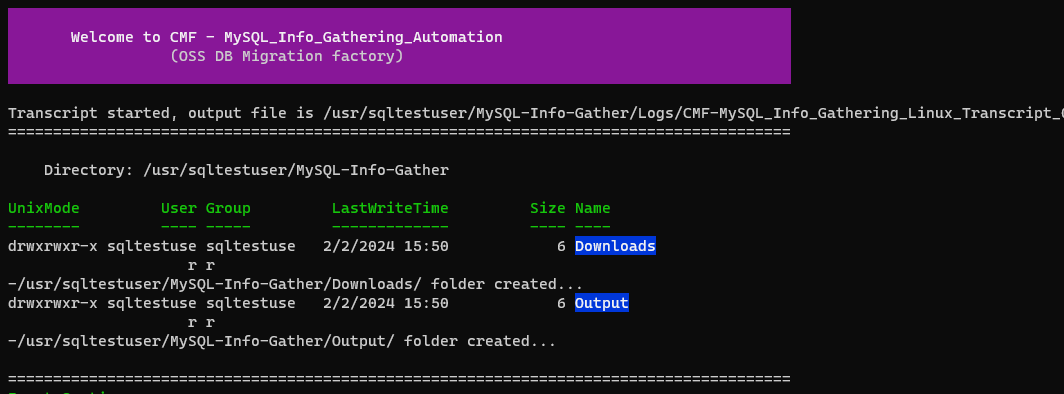
* In Order to support the Info Gathering process, INPUT CSV FILE   
  (**CMF-MySQL\_Server\_Input\_file.csv**) should be provided with MySQL Server details.
* Provide the Mandatory fields highlighted in red color.



#### Script execution (**CMF-MySQL-Linux.ps1**)

* Open Linux terminal
* Change the working directory/folder to the folder MySQL-Info-Gather where the scripts are present.
* Enter the following command to execute the script.

**pwsh ./CMF-MySQL-Linux.ps1**



**Note:** After triggering the automation all the support folders (Logs, Output, Downloads etc.) will be created automatically by the automation script, Mysql path is validated, and it will ask user to proceed with the execution of the script.

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* The script then Validates the list of Hosts to proceed with execution. Continue by Entering “Y” and provide your Project Name. You’ll get below final status of the script execution.

**Note:** Ensure you add the location of Mysql.exe to your Path environment variables

* List of the Hosts the automation will proceed based on the user selection.

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* Next, enter “Y” to proceed MySQL server Info-Gathering.

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* Check the final status of script execution

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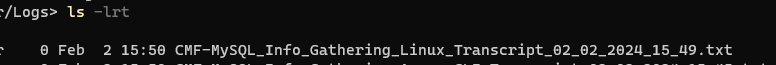
#### Export Info-Gathering details and generating Output log files

* Output log files are generated for each MySQL Server as shown in the Output Folder below.

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#### Automation Script Transcript Logs



**Note:** For the Automation, transcript will be generated in text format as above

**Note:** Please Share the Compressed Output and Logs Folder with the CMF Team.

## **MySQL Server Info-Gathering using Azure Cloud Shell**

* Click on the icon shown below to open the Azure cloud shell

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* Click on “Show advanced settings”

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* Choose your preferred region, you can either use existing or create a new resource group for creating the storage account and file share and then click “Create storage”

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* Choose PowerShell as the Shell.

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* Upload the MySQL-Info-Gather.zip file.

### Scripts Folder

* Unzip the MySQL-Info-Gather zip file received by CMF Team

**Commands:** unzip MySQL-Info-Gather.zip

ls -lrt

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### Renaming Scripts

* Execute the following command to rename the scripts from .txt to .ps1

dos2unix ./rename-linux.txt

sh rename-linux.txt

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### Preparing the INPUT File (**Azure\_Subscription.csv**)

* In Order to support the Info Gathering process, INPUT CSV FILE  
  (**Azure\_Subscription.csv**) should be provided with appropriate details.
* Open the Cloud Shell editor to edit the csv file.

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* In **Azure\_Subscription.csv** file, provide the Tenant and Subscription ID.
* Save and close the editor.

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### Script execution (**CMF-MySQL-CLI-Linux.ps1)**

* Enter the following command to execute the script.

**./CMF-MySQL-CLI-Linux.ps1**

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* Copy the device login URL and code to authenticate
* Output is as shown below.

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* Open the Cloud Shell editor to edit the CMF-MySQL\_Server\_Input\_file.csv file.

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* In **CMF-MySQL\_Server\_Input\_file.csv** file, provide the password and Approval Status.

**Note:** Password can be provided during script execution interactively.

* Save and close the editor.

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* Run the below script for MySQL Server Info Gathering

./CMF-MySQL-Linux.ps1A screenshot of a computer

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* Zip the Output and Logs folder, download and share it with the CMF Team using the commands below.

zip -r Output.zip Output

zip -r Logs.zip Logs

* To download the zip files -

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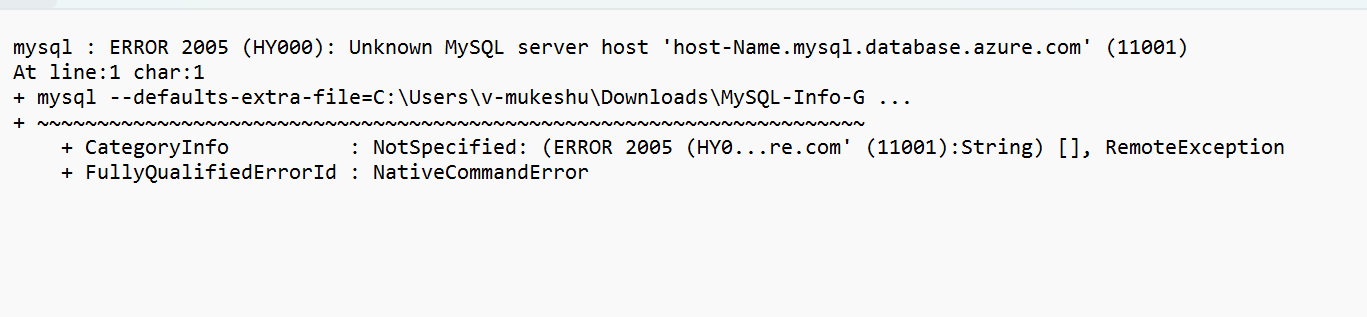
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# **Appendix.**

## **Checking error logs**

* If script execution fails due to some errors, check the detailed error log in

**Output->folder -> folder mysqlxxx.mysql.database.azure.com.log file.**



## **Troubleshooting** A black screen with red text Description automatically generated

* Add the MySQL server binary path in environment variables. Refer below link for steps.  
  [Adding mysql as an environment variable in Windows](#_Adding_mysql_as)

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* Ensure the server is up and running and then execute the scripts.

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* In the **CMF\_MySQL\_Server\_Input\_file.csv** file, ensure that the “DB\_Name” column value is “mysql”.

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* Ensure that the scripts folder name does not contain any whitespaces. Additionally, in the above example, the scripts folder name is correct but it’s inside the “New folder” which contains a whitespace.

## **Input CSV file- Azure\_Subscription.csv**

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**Important Notes:**

* This script is based on the csv file named ‘Azure\_Subscription’ and the following columns in the Input csv file
* INPUT CSV FILE name must be **Azure\_Subscription.csv**
* **Column Name must be kept as shown below, change in names will result in errors.**
* **Values in the column must be correct, incorrect values will also result in error**

|  |  |  |
| --- | --- | --- |
| **Seq.No** | **File** | **Note** |
| 1 |  | Sample: **Azure\_Subscription.csv** |

## **Input CSV file - CMF-MySQL\_Server\_Input\_file.csv**

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**Important Notes:**

* MySQL Client is required to establish Connectivity to MySQL Servers.
* This script is based on the CSV file named ‘CMF-MySQL\_Server\_Input\_file.csv’.
* Column Name must be kept as shown below, change in names will result in errors.
* Values in the column must be correct, incorrect values will also result in errors.
* Tenant and Subscription\_ID columns are Optional.
* Password field is optional but should be provided during script execution if omitted.

1. **Columns for Input File: CMF-MySQL\_Server\_Input\_file.csv**

|  |  |
| --- | --- |
| **Column Name** | **Note** |
| **Host\_Name** | Provide Host Name (Example: localhost) |
| **Port** | Provide Port Number (Example: 3306) |
| **User\_ID** | Provide the User\_ID |
| **Password** | Provide the Password |
| **DB\_Name** | Provide Database Name (Example:mysql) |
| **Tenant** | Azure Subscription tenant ID (Optional) |
| **Subscription\_ID** | Azure Subscription ID (Optional) |
| **Approval Status** | Provide YES to fetch the information and NO to exclude the host. |
| **SSL\_Mode** | Provide SSL\_Mode (Example : preferred) |

|  |  |  |
| --- | --- | --- |
| **Seq.No** | **File** | **Note** |
| 1 |  | Sample**:  CMF-MySQL\_Server\_Input\_file.csv** |

## **Internet access to the URLs below:**

|  |  |
| --- | --- |
| **URL** | **Note** |
| <https://aka.ms/installazurecliwindows> | Azure CLI |
| <https://learn.microsoft.com/en-us/cli/azure/install-azure-cli-linux?pivots=dnf> | Azure CLI (Linux) |
| <https://aka.ms/PSWindows> | PowerShell (Windows) |

## **Without Internet access to the URLss**

Follow the instructions in the following sections to download all the software manually to a server where internet connectivity is enabled. Once all the software is downloaded, move all of it to the server where MySQL Automation script will be executed and install all of them one by one.

## **Installing Azure CLI for Windows and Linux**

Windows - <https://aka.ms/installazurecliwindows>

Linux - https://learn.microsoft.com/en-us/cli/azure/install-azure-cli-linux

## **PowerShell Version, Modules & Execution policy**

Execute the below commands from windows PowerShell as Administrator.

1. To find the PowerShell Version

* **Get-Host**

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1. Set the PowerShell execution policy

* **Set-ExecutionPolicy Unrestricted -Scope CurrentUser**



## **PowerShell Installation on Linux**

* Register the Microsoft RedHat Repository

curl https://packages.microsoft.com/config/rhel/7/prod.repo | sudo tee /etc/yum.repos.d/microsoft.repo

* Install PowerShell

sudo yum install –assume yes powershell

* Start PowerShell

Pwsh

## **Adding mysql as an environment variable in Windows**

* To add the MySQL Client to your environment path, you'll need to modify the system's PATH environment variable to include the directory where the MySQL Client is located. Below are the steps to add the mysql client to the system env path,

1. After the installation, open Start menu, search for Environment variables and select “Edit the system Environment variables”

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1. In the System Properties window, click the “Environment variables”

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1. Next, in the Environment variables window, under “System variables” section, select Path and click “Edit”

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1. Click the “New” button and add the installation path or Browse to navigate and add the MySQL Client installation directory path (e.g. C:\Program Files\MySQL\MySQL Server 8.0\bin or the path where MySQL Client is installed) as shown below

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1. Click “OK” to close each window.

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## **Adding Azure CLI as an environment variable in Windows**

* To add the Azure CLI to your environment path, follow the steps below,

1. After installation, open the Start menu, search for "Environment Variables," and select "Edit the system environment variables."
2. In the System Properties window, click the "Environment Variables" button.
3. In the Environment Variables window, under the "System variables" section, find and select the "Path" variable, then click the "Edit" button.
4. Click the "New" button and add the path to the Azure CLI installation directory (e.g., C:\Program Files\Microsoft SDKs\Azure\CLI2\wbin).
5. Click "OK" to close each window.

* Verify by opening a new Command Prompt or PowerShell window and type “az” to verify that the Azure CLI is now accessible.