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Linux, Solaris, AIX, and HP-UX

Workflows for Oracle MySQL

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MySQL

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	"MySQL - Start or Stop" on page 42
	"MySQL Drop Database" on page 27
	MySQL - Upgrade Instance
Release Management	MySQL - SQL Release

MySQL - SQL Release

The MySQL - SQL Release workflow enables you to executes the given MySQL scripts on the target database. The given scripts are executed one by one. When any one of the script fails, the workflow exits with failure status.

To use this workflow in your environment, see the following information:

Topic	Information Included
"Prerequisites for this Workflow"	List of prerequisites that must be satisfied before you can run this workflow
"How this Workflow Works"	Information about what the workflow does, including validation checks performed, steps executed, and step descriptions
" How to Run this Workflow"	Instructions for running this workflow in your environment
"Parameters for MySQL - SQL Release"	List of input parameters for this workflow

Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the MySQL - Upgrade Instance workflow:

- This solution requires HPE DMA version 10.40 (or later).
- You have installed the Database Release Management solution pack.

The workflow must be able to:

- Log in to the MySQL instance using MySQL login credentials.
- The MySQL login credentails used in the workflow needs to have necessary permissions to perform the operations specified in the SQL scripts.

For more information about prerequisites for MySQL database, refer to the MySQL Server Documentation.

How this Workflow Works

This workflow performs the following actions:

Executes the given MySQL scripts on the target database.

Steps Executed by the Workflow

The MySQL - SQL Release workflow includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.

Steps executed by MySQL - SQL Release workflow

Workflow Step	Description
MySQL - Gather Parameters for SQL Release	This step gathers the parameters required to execute the MySQL – SQL Release workflow.
MySQL - Validate Parameters for SQL Release	This step validates the input parameters to MySQL – SQL Release workflow.
MySQL - Check Prohibited Grant Privileges	This step checks for existence of prohibited grant privileges in the script files.
Download Software	This step automates the transfer of files from the HP SA Software Library to individual managed servers for use in downstream workflow steps. Verifies checksum of each file transferred.
MySQL - Check Prohibited Database Commands	This step checks for existence of prohibited database commands in the script file.
Cleanup Downloaded Files	This step removes all the downloaded files and archives.
MySQL - Check Prohibited Regular Expression	This step checks for existence of prohibited regular expression in the script file.
MySQL - Check MySQL Syntax	This step checks for syntax errors in the script files. It displays the total count of errors in all the script files.
MySQL - Execute Scripts	This step executes the MySQL scripts on the target database.
MySQL - Execute Rollback Scripts	This step executes the rollback scripts on the target database.

Note: For input parameter descriptions and defaults, see "Parameters for MySQL - SQL Release" on page 12.

How to Run this Workflow

The following instructions show you how to customize and run the MySQL - SQL Release workflow in your environment.

Tip: For detailed instructions to run HPE DMA workflows, see *HPE DMA Quick Start Tutorial*.

The workflow provides default values for some parameters. These default values are usually sufficient for a "typical" installation. You can override the defaults by specifying parameter values in the deployment. You can also expose additional parameters in the workflow, if necessary, to accomplish more advanced scenarios. Any parameters not explicitly specified in the deployment will have the default values listed in "Parameters for MySQL - SQL Release" on page 12.

Note: Before following this procedure, review the "Prerequisites for this Workflow" on page 7, and ensure that all requirements are satisfied.

To use the Run MySQL - SQL Release workflow:

1. Create a deployable copy of the workflow (see "Create a Deployable Workflow" in *HPE DMA Quick Start Tutorial*)
2. Determine the values that you will specify for the following parameters.

   Parameters Defined in this Step: MySQL - Gather Parameters for SQL Release

Parameter Name	Default Value	Required	Description
Check MySQL Syntax Run Flag	Y	Required	Boolean parameter to specify whether syntax check needs to be executed on the MySQL Scripts and on the Rollback Scripts. Default Value is Y.
Check Prohibited Grant Privileges Run Flag	Y	Required	Boolean parameter to specify whether the MySQL Script file needs to be checked for prohibited grant privilege commands. Default Value is Y.
Check Prohibited MySQL Commands Run Flag	Y	Required	Boolean parameter to specify whether the MySQL Script file needs to be checked for prohibited MySQL commands.
Check Prohibited Regular Expression Run Flag	Y	Required	Boolean parameter to specify whether the MySQL Script file needs to be checked for user specified regular expression.
Database Password	no default	Required	Password to connect to the database.

Parameters Defined in this Step: MySQL - Gather Parameters for SQL Release, continued

Parameter Name	Default Value	Required	Description
Database User Name	no default	Required	User Account to connect to the database.
Display MySQL Script Output		Required	Boolean parameter to specify whether the output of MySQL Script file is to be displayed on DMA console.
Display SQL Length	200	Required	Integer specifying the length of the MySQL script file to be displayed on DMA console in case of exception.
Execute Rollback on Failure	N	Required	Boolean parameter to specify whether rollback script is to be executed on failure of execution of MySQL script files.
MySQL Script List	no default	Required	Comma separated list of script files to be executed on the target database.
Prohibited Grant Privileges	grant all, grant insert, grant create user, grant delete, grant select , grant create routine, grant execute on	Required	Comma separated list of prohibited grant privilege commands.
Prohibited MySQL Commands	create database, drop database, create user, drop user	Required	Comma separated list of prohibited MySQL commands.
Prohibited Regular Expression	no default	Required	Regular pattern that should not exist in the MySQL Script file.
Rollback Script List	no default	Required	Comma separated list of rollback scripts to be executed on failure of execution of MySQL scripts.
Staging Directory	/tmp/mysql_sql_release	Required	Directory to place the Scripts downloaded from SA core.

3. In the workflow editor, expose any additional parameters that you need. You will specify values for those parameters when you create the deployment or at runtime.

4. Save the changes to the workflow (click **Save** in the lower right corner).
5. Create a new deployment. See "Create a Deployment" in *HPE DMA Quick Start Tutorial* for instructions.
6. On the Parameters tab, specify values (or set the type to Runtime Value) for the required parameters listed in step 2 and any additional parameters that you have exposed. You do not need to specify values for those parameters whose default values are appropriate for your environment.
7. On the Targets tab, specify one or more targets for this deployment.
8. Save the deployment (click **Save** in the lower right corner).
9. Run the workflow using this deployment, specifying any runtime parameters. See "Run Your Workflow" in (*HPE DMA Quick Start Tutorial* for instructions.

To verify the results:

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during workflow execution, the error is logged, and the workflow terminates in the FAILURE state.

Parameters for MySQL - SQL Release

The following tables describe the required and optional input parameters for this workflow.

Parameters Defined in this Step: MySQL - Gather Parameters for SQL Release

Parameter Name	Default Value	Required	Description
Check MySQL Syntax Run Flag	Y	required	If yes (Y), specifies whether syntax check needs to be executed on the MySQL Scripts and on the Rollback Scripts.
Check Prohibited Grant Privileges Run Flag	Y	required	If yes (Y), specifies whether the MySQL Script file needs to be checked for prohibited grant privilege commands.
Check Prohibited MySQL Commands Run Flag	Y	required	If yes (Y), specifies whether the MySQL Script file needs to be checked for prohibited MySQL commands.
Check Prohibited Regular Expression Run Flag	Y	required	If yes (Y), specifies whether the MySQL Script file needs to be checked for user specified regular expression.
Database Password	no default	required	Password to connect to the database.
Database User Name	no default	required	User Account to connect to the database. Example: root
Display MySQL Script Output	Y	required	If yes (Y), specifies whether the output of MySQL Script file is to be displayed on DMA console.
Display SQL Length	250	required	Specifies the length of the MySQL script file as an integer value to be displayed on DMA console in case of exception.
Execute Rollback on Failure	Y	required	If yes (Y), specifies whether rollback script is to be executed on failure of execution of MySQL script files.
MySQL Script List	ProperScript.sql	required	Specifies a comma separated list of script files to be executed on the target database.
Prohibited Grant Privileges	grant all, grant insert, grant create user, grant delete, grant select , grant create routine, grant execute on	required	Specifies a comma separated list of prohibited grant privilege commands.
Prohibited	create user, drop	required	Specifies a comma separated list of prohibited

Parameters Defined in this Step: MySQL - Gather Parameters for SQL Release, continued

Parameter Name	Default Value	Required	Description
MySQL Commands	user		MySQL commands.
Prohibited Regular Expression		required	Specifies a regular pattern that should not exist in the MySQL Script file.
Rollback Script List	Rollbackscript.sql	required	Specifies a comma separated list of rollback scripts to be executed on failure of execution of MySQL scripts.
Staging Directory	/tmp/mysql_sql_ release_hello	required	Specifies a directory to place the scripts downloaded from SA core.

MySQL - Upgrade Instance

This workflow upgrades the MySQL instance. The existing instance is taken as a backup and is stored in the location specified by the user. In-place RPM upgrade is performed if the upgrades are minor. The existing version is removed and a new installation is done for any major upgrades. After the RPM upgrade, upgrading the databases and the table is performed by running the mysql_upgrade utility.

To use this workflow in your environment, see the following information:

Topic	Information Included
"Prerequisites for this Workflow"	List of prerequisites that must be satisfied before you can run this workflow
"How this Workflow Works"	Information about what the workflow does, including validation checks performed, steps executed, and step descriptions
" How to Run this Workflow"	Instructions for running this workflow in your environment
"Parameters for MySQL - Upgrade Instance"	List of input parameters for this workflow

Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the MySQL - Upgrade Instance workflow:

- This solution requires HPE DMA version 10.40 (or later).
- You have installed the Database Release Management solution pack.
- If the MySQL client is not installed on the server, include the MySQL client in list of RPMs to be installed.

The workflow must be able to:

- Take dump of the existing databases.
- Upgrade the MySQL RPMs.
- Run the mysql_upgrade utility on all the databases.

For more information about prerequisites for MySQL database, refer to the MySQL Server Documentation.

How this Workflow Works

This workflow performs the following actions:

Steps Executed by the Workflow

The MySQL - Upgrade Instance workflow includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.

Steps executed by MySQL - Upgrade Instance workflow

Workflow Step	Description
MySQL - Gather Parameters for MySQL Upgrade Instance	This step gathers parameters for MySQL Upgrade.
MySQL - Gather Advanced Parameters for MySQL Upgrade Instance	This step gathers advanced parameters for MySQL Upgrade. This step has few selected parameters that can be passed as an option to 'mysql_upgrade' command.
MySQL - Gather Advanced Parameters for Backup Dump	This step gathers advanced parameters for MySQL Dump. This step has few selected parameters that can be passed as an option to 'mysqldump' command.
MySQL - Validate Parameters for Download File	This step consolidates the list of files required to execute the MySQL - Upgrade Instance workflow.
Download Software	This step automates the transfer of files from the HP SA Software Library to individual managed servers for use in downstream workflow steps.
MySQL - Validate Upgrade	This step validates the pre-requisites for upgrading MySQL instance. For example, whether a direct upgrade from the existing version to the required version is possible or whether the dump file and the software binaries need to be deleted after the execution of the workflow.
Cleanup Downloaded Files	This step removes all downloaded files and archives.
MySQL - Validate Upgrade and Dump Parameters	This step validates the parameters passed as input for the mysqldump and mysql_ upgrade utilities and consolidates all the input parameters in a single string.
MySQL - Backup Database	This step takes a dump of the MySQL databases for backup purpose.
MySQL - Start or Stop	This step starts or stops the MySQL service based on the action specified as input.

Steps executed by MySQL - Upgrade Instance workflow, continued

Workflow Step	Description
Cleanup Downloaded Files	This step removes all downloaded files and archives.
MySQL - Upgrade Installation	This step does an in-place rpm upgrade or fresh installation of RPM.
MySQL - Clean Dump File	This step removes the MySQL dump file from the system.
MySQL - Upgrade Database and Tables	This step runs the 'mysql_upgrade' utility on the upgraded MySQL instance.
MySQL - Verify Upgrade	This step verifies the version of the installed MySQL with the version that was to be installed.
Discover MySQL Databases	This step discovers the MySQL instances and databases on the target machine.

Note: For input parameter descriptions and defaults, see "Parameters for MySQL - Upgrade Instance" on page 23.

How to Run this Workflow

The following instructions show you how to customize and run the MySQL - Upgrade Instance workflow in your environment.

Tip: For detailed instructions to run HPE DMA workflows, see *HPE DMA Quick Start Tutorial*.

The workflow provides default values for some parameters. These default values are usually sufficient for a "typical" installation. You can override the defaults by specifying parameter values in the deployment. You can also expose additional parameters in the workflow, if necessary, to accomplish more advanced scenarios. Any parameters not explicitly specified in the deployment will have the default values listed in "Parameters for MySQL - Upgrade Instance" on page 23.

Note: Before following this procedure, review the "Prerequisites for this Workflow" on page 15, and ensure that all requirements are satisfied.

To use the Run MySQL - Upgrade Instance workflow:

1. Create a deployable copy of the workflow (see "Create a Deployable Workflow" in *HPE DMA Quick Start Tutorial*)
2. Determine the values that you will specify for the following parameters.

   Parameters Defined in this Step: MySQL - Gather Parameters for MySQL Instance Upgrade

Parameter Name	Default Value	Required	Description
MySQL Backup Dump Location	/tmp	required	Specifies the location to store the dump of databases for backup purpose.
Software Binaries	no default	optional	Specifies a comma separated list of RPMs which needs to be installed.

   Parameters Defined in this Step: MySQL - Gather Advanced Parameters for MySQL Instance Upgrade

Parameter Name	Default Value	Required	Description
Clean Dump File on Failure	False	optional	Specify if the dump file created as backup needs to be deleted on failure of the workflow
Clean Dump File on Success	False	optional	Specify if the dump file created as backup needs to be deleted on successful execution of the workflow.
Clean Software	False	optional	Specify if the software binaries or configuration files downloaded from SA core needs to be deleted on failure of the workflow.

Parameters Defined in this Step: MySQL - Gather Advanced Parameters for MySQL Instance Upgrade, continued

Parameter Name	Default Value	Required	Description
Binaries on Failure			
Clean Software Binaries on Success	False	optional	Specify if the software binaries or configuration files downloaded from SA core needs to be deleted on successful execution of the workflow.
MySQL Force Upgrade	True	optional	Force execution of mysql_upgrade utility, even if it has already been executed for current version of MySQL.
MySQL Upgrade Additional Options	no default	optional	Pipe delimited additional options that can be passed as input to mysql_upgrade utility. Example: --fields-enclosed-by|,|--no-autocommit|True.
MySQL Upgrade Debug Info	no default	optional	Print debugging information, memory, and CPU statistics when program exits.
MySQL Upgrade Debug Log	no default	optional	Write debugging log to the given file. Example: d:t:o,/tmp/MySQL_Sample.log.
MySQL Upgrade Defaults Extra File	no default	optional	Read named option file in addition to usual option files.
MySQL Upgrade Defaults File	no default	optional	Read only named option file.
MySQL Upgrade Host	no default	optional	Machine Name or IP Address on which the MySQL server is to be upgraded.
MySQL Upgrade Parameter File	no default	optional	File containing additional parameters that needs to be passed as input to mysql_upgrade utility.
MySQL Upgrade	no default	optional	Password of the MySQL User account that can access the MySQL server that needs to be upgraded

Parameters Defined in this Step: MySQL - Gather Advanced Parameters for MySQL Instance Upgrade, continued

Parameter Name	Default Value	Required	Description
Password			
MySQL Upgrade Port	no default	optional	Port on which the MySQL service that needs to be upgraded is running.
MySQL Upgrade User	no default	optional	User Account of the MySQL server that needs to be upgraded.
MySQL Upgrade Verbose	no default	optional	Run mysql_upgrade utility in verbose mode.
MySQL Upgrade Write Bin Log	no default	optional	Write all statements from mysql_upgrade utility to binary log.
Staging Directory	no default	optional	Directory where the software binaries or configuration files available.

Parameters Defined in this Step: MySQL - Gather Advanced Parameters for Backup Dump

Parameter Name	Default Value	Required	Description
MySQL Dump Additional Options	no default	optional	Pipe delimited additional options for mysqldump. Example: --defaults-group-suffix|abc|--ignore-table|ABC.SampleTable.
MySQL Dump All Database	True	optional	Dump all tables in all databases.
MySQL Dump Compatible Output	no default	optional	Produce output that is more compatible with other database systems or with older MySQL servers.
MySQL Dump Date	True	optional	Include dump date as "Dump completed on" comment if --comments is given.
MySQL Dump	no default	optional	Print debugging information, memory, and CPU statistics when program exits.

Parameters Defined in this Step: MySQL - Gather Advanced Parameters for Backup Dump, continued

Parameter Name	Default Value	Required	Description
Debug Info			
MySQL Dump Debug Log	no default	optional	Write debugging log to the given file. Example : d:t:o,/tmp/MySQL_Sample.log.
MySQL Dump Defaults Extra File	no default	optional	Read named option file in addition to usual option files.
MySQL Dump Defaults File	no default	optional	Read only named option file.
MySQL Dump Events	True	optional	Dump events from dumped databases.
MySQL Dump Flush logs	no default	optional	Flush MySQL server log files before starting dump.
MySQL Dump Flush Privileges	no default	optional	Emit a FLUSH PRIVILEGES statement after dumping MySQL database.
MySQL Dump Host	no default	optional	Machine Name or IP Address of the MySQL Server.
MySQL Dump Lock All Tables	True	optional	Lock all tables across all databases.
MySQL Dump Log Error	no default	optional	Append warnings and errors to named file.
MySQL Dump Parameter File	no default	optional	File containing additional parameters that needs to be passed as input to mysqldump command.
MySQL Dump	no default	optional	Password for MySQL User.

Parameters Defined in this Step: MySQL - Gather Advanced Parameters for Backup Dump, continued

Parameter Name	Default Value	Required	Description
Password			
MySQL Dump Result File	no default	optional	Name of the file to store the results of the mysqldump command.
MySQL Dump Routines	True	optional	Dump stored routines (procedures and functions) from dumped databases.
MySQL Dump User	no default	optional	MySQL User Account.
MySQL Dump Verbose	no default	optional	Run the mysqldump command in verbose mode.

3. In the workflow editor, expose any additional parameters that you need. You will specify values for those parameters when you create the deployment or at runtime.
4. Save the changes to the workflow (click **Save** in the lower right corner).
5. Create a new deployment. See "Create a Deployment" in *HPE DMA Quick Start Tutorial* for instructions.
6. On the Parameters tab, specify values (or set the type to Runtime Value) for the required parameters listed in step 2 and any additional parameters that you have exposed. You do not need to specify values for those parameters whose default values are appropriate for your environment.
7. On the Targets tab, specify one or more targets for this deployment.
8. Save the deployment (click **Save** in the lower right corner).
9. Run the workflow using this deployment, specifying any runtime parameters. See "Run Your Workflow" in (*HPE DMA Quick Start Tutorial* for instructions.

To verify the results:

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during workflow execution, the error is logged, and the workflow terminates in the FAILURE state.

Parameters for MySQL - Upgrade Instance

The following tables describe the required and optional input parameters for this workflow.

Parameters Defined in this Step: MySQL - Gather Parameters for MySQL Upgrade Instance

Parameter Name	Default Value	Required	Description
MySQL Backup Dump Location	/tmp	required	Specifies the location to store the dump of databases for backup purpose.
Software Binaries	no default	optional	Specifies a comma separated list of RPMs which needs to be installed.

Parameters Defined in this Step: MySQL - Gather Advanced Parameters for MySQL Upgrade Instance

Parameter Name	Default Value	Required	Description
Clean Dump File on Failure	False	optional	Specify if the dump file created as backup needs to be deleted on failure of the workflow
Clean Dump File on Success	False	optional	Specify if the dump file created as backup needs to be deleted on successful execution of the workflow.
Clean Software Binaries on Failure	False	optional	Specify if the software binaries or configuration files downloaded from SA core needs to be deleted on failure of the workflow.
Clean Software Binaries on Success	False	optional	Specify if the software binaries or configuration files downloaded from SA core needs to be deleted on successful execution of the workflow.
MySQL Force Upgrade	True	optional	Force execution of mysql_upgrade utility, even if it has already been executed for current version of MySQL.
MySQL Upgrade Additional Options	no default	optional	Pipe delimited additional options that can be passed as input to mysql_upgrade utility. Example: --fields-enclosed-by|,|--no-autocommit|True.

Parameters Defined in this Step: MySQL - Gather Advanced Parameters for MySQL Upgrade Instance, continued

Parameter Name	Default Value	Required	Description
MySQL Upgrade Debug Info	no default	optional	Print debugging information, memory, and CPU statistics when program exits.
MySQL Upgrade Debug Log	no default	optional	Write debugging log to the given file. Example: d:t:o,/tmp/MySQL_Sample.log.
MySQL Upgrade Defaults Extra File	no default	optional	Read named option file in addition to usual option files.
MySQL Upgrade Defaults File	no default	optional	Read only named option file.
MySQL Upgrade Host	no default	optional	Machine Name or IP Address on which the MySQL server is to be upgraded.
MySQL Upgrade Parameter File	no default	optional	File containing additional parameters that needs to be passed as input to mysql_upgrade utility.
MySQL Upgrade Password	no default	optional	Password of the MySQL User account that can access the MySQL server that needs to be upgraded
MySQL Upgrade Port	no default	optional	Port on which the MySQL service that needs to be upgraded is running.
MySQL Upgrade User	no default	optional	User Account of the MySQL server that needs to be upgraded.
MySQL Upgrade Verbose	no default	optional	Run mysql_upgrade utility in verbose mode.
MySQL Upgrade Write Bin Log	no default	optional	Write all statements from mysql_upgrade utility to binary log.

Parameters Defined in this Step: MySQL - Gather Advanced Parameters for MySQL Upgrade Instance, continued

Parameter Name	Default Value	Required	Description
Staging Directory	no default	optional	Directory where the software binaries or configuration files available.

Parameters Defined in this Step: MySQL - Gather Advanced Parameters for Backup Dump

Parameter Name	Default Value	Required	Description
MySQL Dump Additional Options	no default	optional	Pipe delimited additional options for mysqldump. Example: --defaults-group-suffix|abc|--ignore-table|ABC.SampleTable.
MySQL Dump All Database	True	optional	Dump all tables in all databases.
MySQL Dump Compatible Output	no default	optional	Produce output that is more compatible with other database systems or with older MySQL servers.
MySQL Dump Date	True	optional	Include dump date as "Dump completed on" comment if --comments is given.
MySQL Dump Debug Info	no default	optional	Print debugging information, memory, and CPU statistics when program exits.
MySQL Dump Debug Log	no default	optional	Write debugging log to the given file. Example : d:t:o,/tmp/MySQL_ Sample.log.
MySQL Dump Defaults Extra File	no default	optional	Read named option file in addition to usual option files.
MySQL Dump Defaults File	no default	optional	Read only named option file.
MySQL Dump Events	True	optional	Dump events from dumped databases.

Parameters Defined in this Step: MySQL - Gather Advanced Parameters for Backup Dump, continued

Parameter Name	Default Value	Required	Description
MySQL Dump Flush logs	no default	optional	Flush MySQL server log files before starting dump.
MySQL Dump Flush Privileges	no default	optional	Emit a FLUSH PRIVILEGES statement after dumping MySQL database.
MySQL Dump Host	no default	optional	Machine Name or IP Address of the MySQL Server.
MySQL Dump Lock All Tables	True	optional	Lock all tables across all databases.
MySQL Dump Log Error	no default	optional	Append warnings and errors to named file.
MySQL Dump Parameter File	no default	optional	File containing additional parameters that needs to be passed as input to mysqldump command.
MySQL Dump Password	no default	optional	Password for MySQL User.
MySQL Dump Result File	no default	optional	Name of the file to store the results of the mysqldump command.
MySQL Dump Routines	True	optional	Dump stored routines (procedures and functions) from dumped databases.
MySQL Dump User	no default	optional	MySQL User Account.
MySQL Dump Verbose	no default	optional	Run the mysqldump command in verbose mode.

MySQL Drop Database

The MySQL Drop Database workflow enables you to remove the target database from the MySQL instance and from the DMA environment.

To use this workflow in your environment, see the following information:

Topic	Information Included
"Prerequisites for this Workflow" on the next page	List of prerequisites that must be satisfied before you can run this workflow
"How this Workflow Works" on page 29	Information about what the workflow does, including validation checks performed, steps executed, and step descriptions
" How to Run this Workflow" on page 30	Instructions for running this workflow in your environment
"Parameters for MySQL - Drop Database" on page 31	List of input parameters for this workflow

Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the MySQL Drop Database workflow:

- This solution requires HPE DMA version 10.40 (or later).

  The latest HPE DMA solution packs require the latest HPE DMA platform. To use the latest solution packs, update the HPE DMA platform. HPE DMA10.40 solution packs are supported on HPE DMA10.40 (and later).
- You have installed the Database Provisioning solution pack.

The workflow must be able to:

- Log in to the MySQL instance using MySQL login credentials.
- Drop the database upon connecting to the MySQL instance.

The information presented here assumes the following: show assumptions

- HPE DMA is installed and operational.
- At least one suitable target server (database) is available.
- You are logged in to the HPE DMA web interface.
- You have permission to create, edit, and deploy copies of the workflows included in this solution pack.

For more information about prerequisites for MySQL database, refer to the MySQL Server Documentation.

How this Workflow Works

This workflow performs the following actions:

- Drops a MySQL database and removes it from the DMA environment.

Steps Executed by the Workflow

The MySQL Drop Database workflow includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.

Steps Used by MySQL Drop Database

Workflow Step	Description
Gather Advanced Parameters for MySQL	This step gathers parameters to drop a MySQL database.
MySQL - Drop Database	This steps drops the database from the target machine.
Remove Database from Environment V2	This step removes the database from the DMA environment.

How to Run this Workflow

The following instructions show you how to customize and run the MySQL Drop Database workflow in your environment.

The workflow provides default values for some parameters. These default values are usually sufficient for a "typical" installation. You can override the defaults by specifying parameter values in the deployment. You can also expose additional parameters in the workflow, if necessary, to accomplish more advanced scenarios. Any parameters not explicitly specified in the deployment will have the default values listed in "Parameters for MySQL - Drop Database" on the next page.

Note: Before following this procedure, review the "Prerequisites for this Workflow" on page 28, and ensure that all requirements are satisfied.

To use the Run MySQL Drop Database workflow:

1. Create a deployable copy of the workflow.
2. Determine the values that you will specify for the parameters.

   Note: There are no mandatory parameters required to run this workflow. All parameters are optional. You may need to expose additional parameters depending on your objectives.
3. In the workflow editor, expose any additional parameters that you need. You will specify values for those parameters when you create the deployment or at runtime.
4. Save the changes to the workflow (click **Save** in the lower right corner).
5. Create a new deployment.
6. On the Parameters tab, specify values (or set the type to Runtime Value) for the required parameters listed in step 2 and any additional parameters that you have exposed.You do not need to specify values for those parameters whose default values are appropriate for your environment.
7. On the Targets tab, specify one or more targets for this deployment.
8. Save the deployment (click **Save** in the lower right corner).
9. Run the workflow using this deployment, specifying any runtime parameters.

To verify the results:

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during workflow execution, the error is logged, and the workflow terminates in the FAILURE state. The database will be removed from the DMA environment section upon SUCCESS as well.

Parameters for MySQL - Drop Database

There are no mandatory parameters required to run this workflow. All parameters are optional. Some of these parameters are not initially visible in a deployment. For most parameters, if you do not specify a value for a parameter, a default value is assigned.

MySQL - Install Instance

The MySQL - Install Instance workflow installs software for MySQL 5.6 Enterprise x64 edition on RedHat Linux 6. This includes the server, client files, and any other optional components included in RPM files.

To use this workflow in your environment, see the following information:

Topic	Information Included
"Prerequisites for this Workflow" on the next page	List of prerequisites that must be satisfied before you can run this workflow
"How this Workflow Works" on page 34	Information about what the workflow does, including validation checks performed, steps executed, and step descriptions
" How to Run this Workflow" on page 35	Instructions for running this workflow in your environment
"Parameters for MySQL - Install Instance" on page 36	List of input parameters for this workflow

Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the MySQL - Install Instance workflow:

- This solution requires HPE DMA version 10.40 (or later).

  The latest HPE DMA solution packs require the latest HPE DMA platform. To use the latest solution packs, update the HPE DMA platform. HPE DMA10.40 solution packs are supported on HPE DMA10.40 (and later).
- You have installed the Database Provisioning solution pack.
- SE linux must be turned off.
- RPM files must be mounted locally, available through an external download server, or a combination of both.

The information presented here assumes the following: show assumptions

- HPE DMA is installed and operational.
- At least one suitable target server (database) is available.
- You are logged in to the HPE DMA web interface.
- You have permission to create, edit, and deploy copies of the workflows included in this solution pack.

For more information about prerequisites for MySQL database, refer to the MySQL Server Documentation.

How this Workflow Works

This workflow performs the following actions:

- Installs software for MySQL 5.6 Enterprise x64 edition on RedHat Linux 6.

Steps Executed by the Workflow

The MySQL - Install Instance workflow includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.

Steps Used by MySQL - Install Instance

Workflow Step	Description
MySQL - Gather Parameters for Install Instance	This step gathers parameters to install software for MySQL - Install Instance workflow.
MySQL - Gather Advanced Parameters for Install Instance	This steps accepts parameters for advanced MySQL install server and sets defaults.
MySQL - Prepare Install Instance	This step prepares server for MySQL instance installation.
MySQL - Install Instance	This step installs list of RPMs to create a MySQL instance.
Download Software	This step automates the transfer of files from the HP SA Software Library to individual managed servers for use in downstream workflow steps. Verifies checksum of each file transferred.
MySQL - Verify Install Instance	This step verifies that MySQL and its components were installed correctly.
Cleanup Downloaded Files v2	This step removes all downloaded files and archives.
Discover MySQL Databases	This step discovers the MySQL instances and databases on the target machine.

How to Run this Workflow

The following instructions show you how to customize and run the MySQL - Install Instance workflow in your environment.

The workflow provides default values for some parameters. These default values are usually sufficient for a "typical" installation. You can override the defaults by specifying parameter values in the deployment. You can also expose additional parameters in the workflow, if necessary, to accomplish more advanced scenarios. Any parameters not explicitly specified in the deployment will have the default values listed in "Parameters for MySQL - Install Instance" on the next page.

Note: Before following this procedure, review the "Prerequisites for this Workflow" on page 33, and ensure that all requirements are satisfied.

To use the MySQL - Install Instance workflow:

1. Create a deployable copy of the workflow.
2. Determine the values that you will specify for the parameters.

   Note: There are no mandatory parameters required to run this workflow. All parameters are optional. You may need to expose additional parameters depending on your objectives.
3. In the workflow editor, expose any additional parameters that you need. You will specify values for those parameters when you create the deployment or at runtime.
4. Save the changes to the workflow (click **Save** in the lower right corner).
5. Create a new deployment.
6. On the Parameters tab, specify values (or set the type to Runtime Value) for the required parameters listed in step 2 and any additional parameters that you have exposed.You do not need to specify values for those parameters whose default values are appropriate for your environment.
7. On the Targets tab, specify one or more targets for this deployment.
8. Save the deployment (click **Save** in the lower right corner).
9. Run the workflow using this deployment, specifying any runtime parameters.

To verify the results:

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during workflow execution, the error is logged, and the workflow terminates in the FAILURE state. The database will be removed from the DMA environment section upon SUCCESS as well.

To verify that MySQL process is running after the workflow is successfully completed, run the command **ps aux | grep mysql**.

Parameters for MySQL - Install Instance

The following tables describe the required and optional input parameters for this workflow. Some of these parameters are not initially visible in a deployment. For most parameters, if you do not specify a value for a parameter, a default value is assigned.

Parameters Defined in this Step: MySQL - Gather Parameters for Install Instance

Parameter Name	Default Value	Required	Description
List of RPMs	no default	required	Comma-delimited list of RPMs that are either available in the staging directory or will need to be downloaded from the software repository.

Parameters Defined in this Step: MySQL - Gather Advanced Parameters for Install Instance

Parameter Name	Default Value	Required	Description
Backup Zipfile	no default	optional	ZIP file to be used for installing the backup utility.
MySQL Root Password	no default	optional	Password for the MySQL user.
Staging Director	`/tmp/mysql_stage`	optional	Fully qualified path of the directory where MySQL installer will be downloaded to. Will be cleaned up at end of workflow execution. Default directory `/tmp/mysql_stage` will be created if no input is provided.
Template File	no default	optional	A template file to be used for custom configurations.

MySQL - Create Database

The MySQL - Create Database workflow creates a MySQL database and to add it to the DMA environment.

To use this workflow in your environment, see the following information:

Topic	Information Included
"Prerequisites for this Workflow" on the next page	List of prerequisites that must be satisfied before you can run this workflow
"How this Workflow Works" on page 39	Information about what the workflow does, including validation checks performed, steps executed, and step descriptions
" How to Run this Workflow" on page 40	Instructions for running this workflow in your environment
"Parameters for MySQL - Create Database" on page 41	List of input parameters for this workflow

Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the MySQL - Create Database workflow:

- This solution requires HPE DMA version 10.40 (or later).

  The latest HPE DMA solution packs require the latest HPE DMA platform. To use the latest solution packs, update the HPE DMA platform. HPE DMA10.40 solution packs are supported on HPE DMA10.40 (and later).
- You have installed the Database Provisioning solution pack.
- An existing MySQL instance to be used as the target instance.

The information presented here assumes the following: show assumptions

- HPE DMA is installed and operational.
- At least one suitable target server (database) is available.
- You are logged in to the HPE DMA web interface.
- You have permission to create, edit, and deploy copies of the workflows included in this solution pack.

For more information about prerequisites for MySQL database, refer to the MySQL Server Documentation.

How this Workflow Works

This workflow performs the following actions:

- Creates a MySQL database and to add it to the DMA environment.

Steps Executed by the Workflow

The MySQL - Create Database workflow includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.

Steps Used by MySQL - Create Database

Workflow Step	Description
MySQL - Gather Parameters for Create Database	This step gathers parameters to install software for MySQL - Create Database workflow.
MySQL - Create Database	This steps accepts parameters for advanced MySQL install server and sets defaults.
Discover MySQL Databases	This step prepares server for MySQL instance installation.

How to Run this Workflow

The following instructions show you how to customize and run the MySQL - Create Database workflow in your environment.

The workflow provides default values for some parameters. These default values are usually sufficient for a "typical" installation. You can override the defaults by specifying parameter values in the deployment. You can also expose additional parameters in the workflow, if necessary, to accomplish more advanced scenarios. Any parameters not explicitly specified in the deployment will have the default values listed in "Parameters for MySQL - Create Database" on the next page.

Note: Before following this procedure, review the "Prerequisites for this Workflow" on page 38, and ensure that all requirements are satisfied.

To use the MySQL - Create Database workflow:

1. Create a deployable copy of the workflow.
2. Determine the values that you will specify for the parameters.

   Note: There are no mandatory parameters required to run this workflow. All parameters are optional. You may need to expose additional parameters depending on your objectives.
3. In the workflow editor, expose any additional parameters that you need. You will specify values for those parameters when you create the deployment or at runtime.
4. Save the changes to the workflow (click **Save** in the lower right corner).
5. Create a new deployment.
6. On the Parameters tab, specify values (or set the type to Runtime Value) for the required parameters listed in step 2 and any additional parameters that you have exposed.You do not need to specify values for those parameters whose default values are appropriate for your environment.
7. On the Targets tab, specify one or more targets for this deployment.
8. Save the deployment (click **Save** in the lower right corner).
9. Run the workflow using this deployment, specifying any runtime parameters.

To verify the results:

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during workflow execution, the error is logged, and the workflow terminates in the FAILURE state. The database will be removed from the DMA environment section upon SUCCESS as well.

To display a list of databases, including the newly created one, run the command **show databases** within the MySQL program.

Parameters for MySQL - Create Database

The following tables describe the required and optional input parameters for this workflow. Some of these parameters are not initially visible in a deployment. For most parameters, if you do not specify a value for a parameter, a default value is assigned.

Parameters Defined in this Step: MySQL - Gather Parameters for Create Database

Parameter Name	Default Value	Required	Description
Database Name	no default	required	The name of the database to be created.
MySQL Password	no default	optional	The password for the specified MySQL user, this is valid only if used in conjunction with the MySQL user.
MySQL Unix User	no default	optional	The UNIX user that owns the MySQL daemon.
MySQL Username	no default	optional	The username for the MySQL user. This is not required if the .my.cnf file is configured for the instance user.
Web Service Password	no default	required	The password for the discovery web service API.
Web Service URL	no default	required	The URL for the discovery web service API.
Web Service User	no default	required	The user capable of modifying the managed environment through the discovery web service API.

MySQL - Start or Stop

The MySQL - Start or Stop workflow starts or stops an existing MySQL daemon.

To use this workflow in your environment, see the following information:

Topic	Information Included
"Prerequisites for this Workflow" on the next page	List of prerequisites that must be satisfied before you can run this workflow
"How this Workflow Works" on page 44	Information about what the workflow does, including validation checks performed, steps executed, and step descriptions
" How to Run this Workflow" on page 45	Instructions for running this workflow in your environment
"Parameters for MySQL - Start or Stop" on page 46	List of input parameters for this workflow

Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the MySQL - Start or Stop workflow:

- This solution requires HPE DMA version 10.40 (or later).

  The latest HPE DMA solution packs require the latest HPE DMA platform. To use the latest solution packs, update the HPE DMA platform. HPE DMA10.40 solution packs are supported on HPE DMA10.40 (and later).
- You have installed the Database Provisioning solution pack.
- Must target an existing MySQL instance.

The information presented here assumes the following: show assumptions

- HPE DMA is installed and operational.
- At least one suitable target server (database) is available.
- You are logged in to the HPE DMA web interface.
- You have permission to create, edit, and deploy copies of the workflows included in this solution pack.

For more information about prerequisites for MySQL database, refer to the MySQL Server Documentation.

How this Workflow Works

This workflow performs the following actions:

- Starts or stops an existing MySQL daemon.

Steps Executed by the Workflow

The MySQL - Start or Stop workflow includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.

Steps Used by MySQL - Start or Stop

Workflow Step	Description
MySQL - Gather Parameters for Start or Stop	This step gathers parameters to install software for MySQL - Start or Stop workflow.
MySQL - Gather Advanced Parameters for Start or Stop	This step gathers advanced parameters for MySQL - Start or Stop workflow and sets defaults.
MySQL - Check Status	This steps checks the status of the MySQL to ensure that it matches Desired Status in the input parameter.
MySQL - Start or Stop	This step starts or stops an existing MySQL daemon, based on the value set for the parameter "Action".

How to Run this Workflow

The following instructions show you how to customize and run the MySQL - Start or Stop workflow in your environment.

The workflow provides default values for some parameters. These default values are usually sufficient for a "typical" installation. You can override the defaults by specifying parameter values in the deployment. You can also expose additional parameters in the workflow, if necessary, to accomplish more advanced scenarios. Any parameters not explicitly specified in the deployment will have the default values listed in "Parameters for MySQL - Start or Stop" on the next page.

Note: Before following this procedure, review the "Prerequisites for this Workflow" on page 43, and ensure that all requirements are satisfied.

To use the MySQL - Start or Stop workflow:

1. Create a deployable copy of the workflow.
2. Determine the values that you will specify for the parameters.

   Note: There are no mandatory parameters required to run this workflow. All parameters are optional. You may need to expose additional parameters depending on your objectives.
3. In the workflow editor, expose any additional parameters that you need. You will specify values for those parameters when you create the deployment or at runtime.
4. Save the changes to the workflow (click **Save** in the lower right corner).
5. Create a new deployment.
6. On the Parameters tab, specify values (or set the type to Runtime Value) for the required parameters listed in step 2 and any additional parameters that you have exposed.You do not need to specify values for those parameters whose default values are appropriate for your environment.
7. On the Targets tab, specify one or more targets for this deployment.
8. Save the deployment (click **Save** in the lower right corner).
9. Run the workflow using this deployment, specifying any runtime parameters.

To verify the results:

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during workflow execution, the error is logged, and the workflow terminates in the FAILURE state. The database will be removed from the DMA environment section upon SUCCESS as well.

To verify MySQL daemon is indeed started/stopped based on workflow's outcome, run the command **service mysql status**.

Parameters for MySQL - Start or Stop

The following tables describe the required and optional input parameters for this workflow.

Parameters Defined in this Step: MySQL - Gather Parameters for Start or Stop

Parameter Name	Default Value	Required	Description
Action	no default	required	If set to "Start", the MySQL daemon will be started. If set to "Stop", the MySQL daemon will be stopped.

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Feedback on Workflows for Oracle MySQL (Database and Middleware Automation 10.40)

Just add your feedback to the email and click send.

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We appreciate your feedback!