

Issue with External Library Management

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Issue

Issues with External Library Management

For example if the query errors out with - **'Error in library(reshape2) :there is no package called 'reshape2'.**

Investigation/Analysis

- Check if we are running into known limitations
- External Resource pools are not supported
- External languages like Java etc., cannot be added.

External

Library Installs and failures are stored in a table in physical master database.

Physical master db is not queriable by customer. The easiest way to query physical master db is to use 'adhocquerytobackendinstance.xts' against the server/DB of your choice.

Query to check library installs:

```
select * from sys.external_libraries_installed_table [all successful library installs go here]
```

Query to check library install failures:

```
select * from sys.external_library_setup_failures [all library install failures are here]
```

To query physical master, query the view 'adhocquerytobackendinstance.xts' and write the query you want to run. The results from the query can be seen the (Managed Instance Only tab below)

The screenshot shows the SQL Server Enterprise Manager interface. The left pane displays a tree view of the server hierarchy. The center pane shows the 'Step 1: Servers' and 'Step 2: Databases for "testdb"' configuration. The right pane shows the 'Query Text' area with the query: `select * from sys.external_libraries_installed_table`. The bottom pane shows the 'Machines' tab with a table of external libraries.

db_id	principal_id	language_id	external_library_id	name	mdversion
32763	7	2	65537	astor	0x93068A0072AB0000

For example if the query errors out with -
'Error in library(reshape2) :there is no package called 'reshape2'.

Query 'select * from sys.external_libraries_installed_table' to understand the set of libraries installed.
If reshape2 is not in the list, customer is trying to load a library which is not installed.

At this point, either the customer has not installed the library at all or the previous library install session failed.

If the customer has not installed the library, ask the customer to install the library.

To understand if the customer hit some issues during library installs previously,
Query 'select * from sys.external_library_setup_failures' to understand the set of library install failures.
Check to find reshape2 in the list to see if the package failed install and check the error message to understand what it failed with.

Useful Kusto Queries for library management:

The only caveat with Kusto queries is that library names are not stored in Kusto in plain text and are hashed to preserve privacy of customer libraries. So querying the physical master db is still the best approach

To check installed libraries on a specific Server/DB:

Execute: [\[Web\]](#) [\[Desktop\]](#) [\[Web \(Lens\)\]](#) [\[Desktop \(SAW\)\]](#) <https://sqladhoc.kustomfa.windows.net/sqlazure1>

MonExtensibilityLibMgmtTrace

| where LogicalServerName contains "sampleservercloudtest5" and AppName contains "cfdedc9d4885"
| where event contains "external_library_install"

To check failed library installs on a specific Server/DB:

Execute: [[Web](#)] [[Desktop](#)] [[Web \(Lens\)](#)] [[Desktop \(SAW\)](#)] <https://sqladhoc.kustomfa.windows.net/sqlazure1>

MonExtensibilityLibMgmtTrace

| where LogicalServerName contains "sampleservercloudtest5" and AppName contains "cfdedc9d4885"
| where event contains "library_setup_failure"

Mitigation

At this point, either the customer has not installed the library at all or the previous library install session failed.

If the customer has not installed the library, ask the customer to install the library.

To understand if the customer hit some issues during library installs previously,

Query 'select * from sys.external_library_setup_failures' to understand the set of library install failures.

Check to find **reshape2** in the list to see if the package failed install and check the error message to understand what it failed with.

Open an ICM / Check in the Teams channel with the Engineering Team if not sure about any of the Limitations

Root Cause Classification

Cases resolved by this TSG should be coded to the following root cause: <Root cause path>

How good have you found this content?