Error 18456, State 5 - Login failed for user ''

Last updated by | Vitor Tomaz | Oct 18, 2022 at 3:46 AM PDT

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Error 18456, State 5 - Login failed for user '<token-identified principal>'

Issue

When cx tries to login to Azure SQL DB using AAD

```
=================================
Cannot connect to SERVENAME.database.windows.net.
=================================
Login failed for user '<token-identified principal>'. (.Net SqlClient Data Provider)
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For help, click: http://go.microsoft.com/fwlink?ProdName=Microsoft%20SQL%20Server&EvtSrc=MSSQLServer&EvtID=184
-------------------------------
Server Name: SERVENAME.database.windows.net
Error Number: 18456
Severity: 14
State: 1
Line Number: 65536
-------------------------------
Program Location:
   at System.Data.SqlClient.SqlInternalConnectionTds..ctor(DbConnectionPoolIdentity identity, SqlConnectionStr
   at System.Data.SqlClient.SqlConnectionFactory.CreateConnection(DbConnectionOptions options, DbConnectionPoo
   at System.Data.ProviderBase.DbConnectionFactory.CreateNonPooledConnection(DbConnection owningConnection, Db
   at System.Data.ProviderBase.DbConnectionFactory.TryGetConnection(DbConnection owningConnection, TaskComplet
   at System.Data.ProviderBase.DbConnectionInternal.TryOpenConnectionInternal(DbConnection outerConnection, Db
   at System.Data.ProviderBase.DbConnectionClosed.TryOpenConnection(DbConnection outerConnection, DbConnection
   at System.Data.SqlClient.SqlConnection.TryOpenInner(TaskCompletionSource`1 retry)
   at System.Data.SqlClient.SqlConnection.TryOpen(TaskCompletionSource`1 retry)
   at System.Data.SqlClient.SqlConnection.Open()
   at Microsoft.SqlServer.Management.SqlStudio.Explorer.ObjectExplorerService.ValidateConnection(UIConnectionI
   at Microsoft.SqlServer.Management.UI.ConnectionDlg.Connector.ConnectionThreadUser()
```

PreciseTimeStamp	logical_server_name	database_name	MachineName	package	event
2020-05-26 09:01:36	SERVERNAME	master	DB92	sqlserver	process_log
2020-05-26 09:02:06	SERVERNAME	XPTO	DB16	sqlserver	process_log

Investigation/Analysis

This error is usually related to a AAD user that does not have user created on SQL DB or is not the Server Admin

You will notice this kind of error will show as **18456/5 (User ID is not valid)** on MonLogin

```
let ServerName = "SERVERNAME";
MonLogin
| where TIMESTAMP >= ago(1d)
| where logical_server_name =~ ServerName
| where event == "process_login_finish"
| where is_success == 0
| extend AADUser = iif( fedauth_adal_workflow > 0 or fedauth_library_type > 0, "AAD" , "SQL")
| extend fedauth_library_type_desc =
case (
fedauth_library_type == 0, "SQL Auth",
fedauth_library_type == 2, "Token Based",
fedauth_library_type == 3 and fedauth_adal_workflow == 1, "AAD Password",
fedauth_library_type == 3 and fedauth_adal_workflow == 2, "AAD Integrated",
fedauth_library_type == 3 and fedauth_adal_workflow == 3, "AAD Universal MFA",
fedauth_library_type == 4, "Windows Auth",
strcat(tostring(fedauth_library_type) , "-" , tostring(fedauth_adal_workflow))
)
| project PreciseTimeStamp, logical_server_name, database_name, MachineName , package, event, is_success, is_u
        application_name, driver_name, AADUser, fedauth_library_type_desc, total_time_ms, message, connection_
```

Mitigation

Just create the user in the DB [Create contained database users in your database mapped to Azure AD identities](#) ⧉

- CREATE USER <Azure_AD_principal_name> FROM EXTERNAL PROVIDER;
- CREATE USER [bob@contoso.com] FROM EXTERNAL PROVIDER;
- CREATE USER [alice@fabrikam.onmicrosoft.com] FROM EXTERNAL PROVIDER;
- CREATE USER [ICU Nurses] FROM EXTERNAL PROVIDER;
- CREATE USER [appName] FROM EXTERNAL PROVIDER;

Public Doc Reference

- [Create contained database users in your database mapped to Azure AD identities](#) ⧉
- **[AAD Auth Error - Login failed for user '<token-identified principal>'](#)** ⧉

Private Doc Reference

- [Error 18456: Login failed](#)

Root Cause Classification

Connectivity\AAD Issue\AAD User Configuration issues

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