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Introduction

This document describes how to configure Identity Services Engine (ISE) with PostgreSQL Server for ISE authentication using Open Database Connectivity (ODBC).

Note: Open Database Connectivity (ODBC) authentication requires ISE to be able to fetch a plain text user password. The password can be encrypted in the database, but has to be decrypted by the stored procedure.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Cisco Identity Services Engine 2.1
- Database and ODBC concepts
- PostgreSQL

Components Used

The information in this document is based on these software and hardware versions:

- Identity Services Engine 2.1
- Centos 7
- PostgreSQL 9.2

Configure

Note: Treat SQL code in this document as an example. Usually there is more than one way to code desired functionality and all of them have their advantages and disadvantages.

Step 1. PostgreSQL Basic Configuration

Configuration steps include database creation and one user for ISE with permissions to access that database.

1. From postgres user create isedb user:

2. Create a database

or with SQL:

3. Allow access to PostgreSQL

Find the lines that looks like this, near the bottom of the file:

Then replace **ident** with **md5**, so they look like this:

4. Allow remote connections to PgSQL

You need to open PostgreSQL configuration file `/var/lib/pgsql/data/postgresql.conf`. Find configuration line that reads:

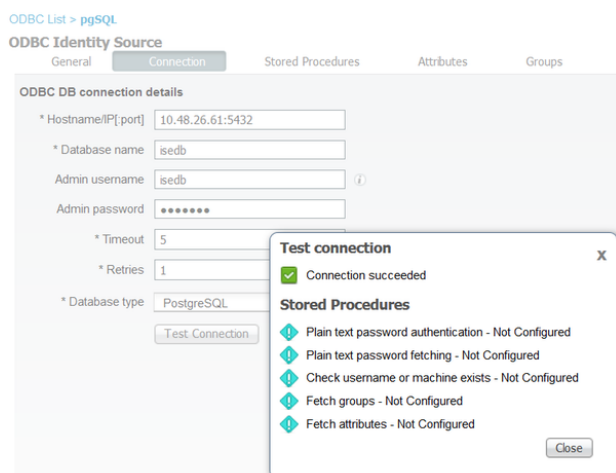
and change to

Allow connections from all addresses. Uncomment port configuration line (if commented):

5. Restart PgSQL:

Step 2. ISE Configuration

Create an ODBC Identity Source at **Administration > External Identity Source > ODBC** and test connection:



Step 3. Configure User Authentication

ISE authentication to ODBC uses stored procedures. It is possible to select type of procedures. In this example we use parameters as return. For other procedures, refer to [Cisco Identity Services Engine 2.1 Administration Guide](#)

Tip: It is possible to return named parameters instead of resultset. It is just a different type of output, functionality is the same.

1. Create the table. Make sure you set the identity settings on the **primary key**

2. Run this query to insert one user

Or

And learn and store generated UUID of a new user with this query

3. Create a procedure for plain text password authentication (used for PAP, EAP-GTC inner method, TACACS)

4. Create a procedure for plain text password fetching (used for CHAP, MSCHAPv1/v2, EAP-MD5, LEAP, EAP-MSCHAPv2 inner method, TACACS)

5. Create a procedure for check username or machine exists (used for MAB, fast reconnect of PEAP, EAP-FAST and EAP-TTLS)

6. Configure procedures on ISE and save

[ODBC List > pgSQL](#)

ODBC Identity Source

General	Connection	Stored Procedures	Attributes	Groups
Stored procedure type		Returns parameters		
Plain text password authentication	iseauthuserplainreturnsparements		i	+
Plain text password fetching	isefetchpasswordreturnsparements		i	+
Check username or machine exists	iseuserlookupreturnsparements		i	+
Fetch groups			i	+
Fetch attributes			i	+
Search for MAC Address in format		xx:xx:xx:xx:xx:xx	i	

7. Create a simple authentication rule using ODBC and test it

Overview

Event	5200 Authentication succeeded
Username	user1
Endpoint Id	
Endpoint Profile	
Authentication Policy	Default >> test_aaa >> Default
Authorization Policy	Default >> Basic_Authenticated_Access
Authorization Result	PermitAccess

Authentication Details

Source Timestamp	2016-08-26 14:18:28.17
Received Timestamp	2016-08-26 14:18:28.206
Policy Server	vlumov-ise21
Event	5200 Authentication succeeded
Username	user1
Authentication Identity Store	pgSQL
Authentication Method	PAP_ASCII
Authentication Protocol	PAP_ASCII

Steps

- 11001 Received RADIUS Access-Request
- 11017 RADIUS created a new session
- 11117 Generated a new session ID for a 3rd party NAD
- 15049 Evaluating Policy Group
- 15008 Evaluating Service Selection Policy
- 15048 Queried PIP - Normalised Radius.RadiusFlowType (2 times)
- 15048 Queried PIP - Radius Service-Type
- 15048 Queried PIP - Normalised Radius.RadiusFlowType (2 times)
- 15004 Matched rule - test_aaa
- 15041 Evaluating Identity Policy
- 15006 Matched Default Rule
- 15013 Selected Identity Source - pgSQL
- 24852 Perform plain text password authentication in external ODBC database - pgSQL
- 24849 Connecting to external ODBC database - pgSQL
- 24850 Successfully connected to external ODBC database - pgSQL
- 24856 Expect external ODBC database stored procedure to return results in output parameters - pgSQL
- 22037 Authentication Passed
- 15036 Evaluating Authorization Policy
- 15048 Queried PIP - Normalised Radius.RadiusFlowType (4 times)
- 15048 Queried PIP - EndPoints.LogicalProfile
- 15048 Queried PIP - Network Access.AuthenticationStatus
- 15004 Matched rule - Basic_Authenticated_Access
- 15016 Selected Authorization Profile - PermitAccess
- 11002 Returned RADIUS Access-Accept

Step 4. Configure Group Retrieval

1. Create tables containing user groups and another used for many-to-many mapping
 2. Add groups and mappings, so that user1 belongs to two groups
- Or generate new UUIDs, however you will need to learn them with **SELECT** queries.
3. Create return type and a group retrieval procedure
 4. Map it to **Fetch groups**

[ODBC List > pgSQL](#)

ODBC Identity Source

General	Connection	Stored Procedures	Attributes	Groups
Stored procedure type		Returns parameters		
Plain text password authentication		iseauthuserplainreturnsparements	i	+
Plain text password fetching		isefetchpasswordreturnsparements	i	+
Check username or machine exists		iseuserlookupreturnsparements	i	+
Fetch groups		isegroupsh	i	+
Fetch attributes		iseattrsh	i	+
Search for MAC Address in format		xx:xx:xx:xx:xx:xx	i	

5. Fetch the groups and add them into the **ODBC Identity Source**



6. Add another user which does not belong to any group

7. Create a test **Authorization Policy** and test it

<input checked="" type="checkbox"/>	ODBC check Group	if	pgSQL:ExternalGroups EQUALS Admins	then	PermitAccess
<input checked="" type="checkbox"/>	Default	if no matches, then	DenyAccess		

SelectedAuthenticationIdentityStores	pgSQL
AuthorizationPolicyMatchedRule	ODBC check Group
CPMSessionID	0a301a321uM9iabemtwC3JmOxM0PEPNRCy44aEudtrNg2ajmJGg
ISEPolicySetName	Default
AllowedProtocolMatchedRule	test_aaa
IdentitySelectionMatchedRule	Default
Network Device Profile	Cisco
Location	Location#All Locations
Device Type	Device Type#All Device Types
ExternalGroups	Admins
ExternalGroups	Laptops
RADIUS Username	user1

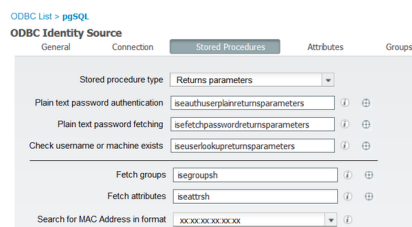
Step 5. Configure Attributes Retrieval

1. In order to simplify this example, a flat table is used for attributes

2. Create an attribute for both of the users

3. Create a **return type** and a **stored procedure**

4. Map it to **Fetch attributes**



5. Fetch the attributes



6. Adjust ISE policies and test it

<input checked="" type="checkbox"/>	ODBC all access	if (pgsqlExternalGroups EQUALS Admins AND pgSQL:SecurityLevel EQUALS 10)	then PermitAccess
<input checked="" type="checkbox"/>	ODBC security 5	if pgSQL:SecurityLevel EQUALS 5	then Sec-5

Status	Details	Repeat ...	Identity	End...	Endp...	Authenticati...	Authorization Policy	Authorizati...	IP
<input checked="" type="checkbox"/>			Identity	Endpc	Endpoi	Authentication	Authorization Policy	Authorization F	IP
<input checked="" type="checkbox"/>			user2			Default >> te...	Default >> ODBC security 5	Sec-5	
<input checked="" type="checkbox"/>			user1			Default >> te...	Default >> ODBC all access	PermitAccess	

Verify

You should now be able to authenticate users against ODBC and retrieve their groups and attributes.

Example:

Overview	
Event	5200 Authentication succeeded
Username	user1
Endpoint ID	
Endpoint Profile	
Authentication Policy	Default ==> test_all ==> Default
Authorization Policy	Default ==> ODBC all access
Authorization Result	PermitAccess

Authentication Details	
Source Timestamp	2016-06-28 13:37:43.957
Received Timestamp	2016-06-28 13:37:43.958
Policy Server	vlmwr0021
Event	5200 Authentication succeeded
Username	user1
Authentication Identity Store	pgsql
Authentication Method	PAP_PSO3
Authentication Protocol	PAP_PSO3
Service Type	Login
Network Device	subnet01
Device Type	All Device Types
Location	All Locations
NAS IPv4 Address	10.48.44.114
NAS Port Type	Async
Authentication Profile	PermitAccess
Response Time	140

Other Attributes	
ConfigGroupID	103
DestinationPort	1812
Protocol	Radius
NetworkDeviceProfileName	Class
NetworkDeviceProfileID	403a4b0-7a27-41c3-833b-27964014000
NetworkDeviceProfileSize	None
AuthSessionID	vlmwr0021057021913102
SelectedAuthenticationIdentityStore	pgsql
AuthenticationPolicyMatchRule	ODBC all access
CPM SessionID	3a31a2f0-8c74-4c79-9147-28167104a1e49030g
ISE PolicyServerName	Default
AllowedProtocolMatchRule	test_all
MatchingMethodMatchRule	Default
Network Device Profile	Class
Location	LocationAll Locations
Device Type	Device TypeAll Device Types
ExternalGroups	Admins
ExternalGroups	LDAPtest
SecurityLevel	10
RADIUS Username	user1

Troubleshoot

If the connection is not successful on ISE use command **show logging application prrt-management.log tail** while attempting to connect.

Example of wrong credentials:

```
2016-08-28 13:55:47,017 WARN [admin-http-pool1372][] cisco.cpm.odbcidstore.impl.PostgresDbAccess
-:admin::- Connection to ODBC DB failed. Exception: org.postgresql.util.PSQLException: FATAL:
password authentication failed for u
ser "isedb_wrong"
org.postgresql.util.PSQLException: FATAL: password authentication failed for user "isedb_wrong"
at org.postgresql.Driver$ConnectThread.getResult(Driver.java:365)
at org.postgresql.Driver.connect(Driver.java:288)
at java.sql.DriverManager.getConnection(DriverManager.java:664)
at java.sql.DriverManager.getConnection(DriverManager.java:208)
at com.cisco.cpm.odbcidstore.impl.PostgresDbAccess.connect(PostgresDbAccess.java:46)
at com.cisco.cpm.odbcidstore.impl.OdbcConnection.connect(OdbcConnection.java:72)
at com.cisco.cpm.odbcidstore.impl.OdbcIdStore.performTest(OdbcIdStore.java:377)
at
com.cisco.cpm.odbcidstore.impl.OdbcIdStore.testConnectionAndConfiguration(OdbcIdStore.java:469)
at
com.cisco.cpm.odbcidstore.impl.OdbcIdStoreManager.testConnectionAndConfiguration(OdbcIdStoreMana
ger.java:84)
at com.cisco.cpm.admin.ac.actions.ODBCLPInputAction.testConnection(ODBCLPInputAction.java:749)
```

Example of wrong DB name:

```
2016-08-28 13:53:43,174 WARN [admin-http-pool1372][] cisco.cpm.odbcidstore.impl.PostgresDbAccess
-:admin::- Connection to ODBC DB failed. Exception: org.postgresql.util.PSQLException: FATAL:
database "isedb_wrong" does not exist
t
org.postgresql.util.PSQLException: FATAL: database "isedb_wrong" does not exist
at org.postgresql.Driver$ConnectThread.getResult(Driver.java:365)
at org.postgresql.Driver.connect(Driver.java:288)
at java.sql.DriverManager.getConnection(DriverManager.java:664)
at java.sql.DriverManager.getConnection(DriverManager.java:208)
at com.cisco.cpm.odbcidstore.impl.PostgresDbAccess.connect(PostgresDbAccess.java:46)
at com.cisco.cpm.odbcidstore.impl.OdbcConnection.connect(OdbcConnection.java:72)
at com.cisco.cpm.odbcidstore.impl.OdbcIdStore.performTest(OdbcIdStore.java:377)
at
com.cisco.cpm.odbcidstore.impl.OdbcIdStore.testConnectionAndConfiguration(OdbcIdStore.java:469)
at
com.cisco.cpm.odbcidstore.impl.OdbcIdStoreManager.testConnectionAndConfiguration(OdbcIdStoreMana
ger.java:84)
at com.cisco.cpm.admin.ac.actions.ODBCLPInputAction.testConnection(ODBCLPInputAction.java:749)
```

In order to troubleshoot DB operations, enable logging components **odbc-id-store** to **DEBUG** level under **Administration > System > Logging > Debug Log Configuration**.

Logs are placed in **prrt-management.log** file.

Example for **user1**:

```
2016-08-28 14:01:01,116 DEBUG [Thread-26349][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- ODBC
ID Store Operation: Authenticate Plain Text Password. Username=user1,
SessionID=0a301a320uqzqoKTrY02KoCjdWN6PlZtBX1/vhDXxN9nQTBFM8g
2016-08-28 14:01:01,118 DEBUG [Thread-26349][] cisco.cpm.odbcidstore.impl.CustomerLog -:::-
Write customer log message: 24852
```

```
2016-08-28 14:01:01,119 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -
:::- OdbcConnectionPool - get connection
2016-08-28 14:01:01,119 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -
:::- OdbcConnectionPool - use existing connection
2016-08-28 14:01:01,119 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -
:::- OdbcConnectionPool - connections in use: 1
2016-08-28 14:01:01,119 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Authenticate plain text password
2016-08-28 14:01:01,119 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Prepare stored procedure call, procname=iseauthuserplainreturnsparameters
2016-08-28 14:01:01,119 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Using output parameters to obtain stored procedure result values
2016-08-28 14:01:01,119 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.CustomerLog -:::-
Write customer log message: 24856
2016-08-28 14:01:01,119 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Text: {call iseauthuserplainreturnsparameters(?, ?, ?, ?, ?, ?)}
2016-08-28 14:01:01,119 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Setup stored procedure input parameters, username=user1, password=***
2016-08-28 14:01:01,119 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Setup stored procedure output parameters
2016-08-28 14:01:01,119 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Execute stored procedure call
2016-08-28 14:01:01,121 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Process stored procedure results
2016-08-28 14:01:01,121 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Obtain stored procedure results from output parameters
2016-08-28 14:01:01,121 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Results successfully parsed from output parameters
2016-08-28 14:01:01,121 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -
:::- OdbcConnectionPool - release connection
2016-08-28 14:01:01,121 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -
:::- OdbcConnectionPool - connections in use: 0
2016-08-28 14:01:01,121 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- Call
to ODBC DB succeeded
2016-08-28 14:01:01,121 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.OdbcAuthResult -:::-
Authentication result: code=0, Connection succeeded=false, odbcDbErrorString=No error,
odbcStoredProcedureCustomerErrorString=null, ac
countInfo=This is a very good user, give him all access, group=11
2016-08-28 14:01:01,121 DEBUG [Thread-26349][[] cisco.cpm.odbcidstore.impl.CustomerLog -:::-
Write customer log message: 24853
2016-08-28 14:01:01,129 DEBUG [Thread-3076][[] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- ODBC
ID Store Operation: Get all user groups. Username=user1,
SessionID=0a301a320uqzqokTrY02KoCjdWN6PlZtBX1/vhDXxN9nQTBFM8g
2016-08-28 14:01:01,131 DEBUG [Thread-3076][[] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- ODBC
ID Store Operation: Fetch user groups. Username=user1,
SessionID=0a301a320uqzqokTrY02KoCjdWN6PlZtBX1/vhDXxN9nQTBFM8g
2016-08-28 14:01:01,131 DEBUG [Thread-3076][[] cisco.cpm.odbcidstore.impl.CustomerLog -:::- Write
customer log message: 24869
2016-08-28 14:01:01,132 DEBUG [Thread-3076][[] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -
:::- OdbcConnectionPool - get connection
2016-08-28 14:01:01,132 DEBUG [Thread-3076][[] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -
:::- OdbcConnectionPool - use existing connection
2016-08-28 14:01:01,132 DEBUG [Thread-3076][[] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -
:::- OdbcConnectionPool - connections in use: 1
2016-08-28 14:01:01,132 DEBUG [Thread-3076][[] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Fetch user groups
2016-08-28 14:01:01,132 DEBUG [Thread-3076][[] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Prepare stored procedure call, procname=isegroupsh
2016-08-28 14:01:01,132 DEBUG [Thread-3076][[] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Text: {call isegroupsh(?)}
```



```
2016-08-28 14:01:01,134 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Process stored procedure results
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Received result recordset, total number of columns=2
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
POSTGRES case, first column holds the result param value
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
According to column number expect multiple rows (vertical attributes/groups returned result)
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Fetched data: ExternalGroup=Admins
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Fetched data: ExternalGroup=Laptops
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Results successfully parsed from recordset
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Result code indicates success
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -
:::- OdbcConnectionPool - release connection
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -
:::- OdbcConnectionPool - connections in use: 0
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- Call
to ODBC DB succeeded
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.CustomerLog -:::- Write
customer log message: 24870
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- ODBC
ID Store Operation: Get all user groups. Got groups...
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- ODBC
ID Store Operation: Get all user groups. Got groups(0) = Admins
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- ODBC
ID Store Operation: Get all user groups. Setting Internal groups(0) = Admins
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- ODBC
ID Store Operation: Get all user groups. Got groups(1) = Laptops
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- ODBC
ID Store Operation: Get all user groups. Setting Internal groups(1) = Laptops
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- ODBC
ID Store Operation: Get all user groups. Username=user1, ExternalGroups=[Admins, Laptops]
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- ODBC
ID Store Operation: Fetch user attributes. Username=user1,
SessionID=0a301a320uqzqoKTrY02KoCjdWN6PlZtBX1/vhDXxN9nQTBFM8g
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.CustomerLog -:::- Write
customer log message: 24872
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -
:::- OdbcConnectionPool - get connection
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -
:::- OdbcConnectionPool - use existing connection
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -
:::- OdbcConnectionPool - connections in use: 1
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Fetch user attributes
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Prepare stored procedure call, procname=iseattrsh
2016-08-28 14:01:01,135 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Text: {call iseattrsh(?)}
```

According to column number expect multiple rows (vertical attributes/groups returned result)

```
2016-08-28 14:01:01,140 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Fetched data: SecurityLevel=10
2016-08-28 14:01:01,140 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Results successfully parsed from recordset
2016-08-28 14:01:01,140 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Result code indicates success
2016-08-28 14:01:01,140 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -
:::- OdbcConnectionPool - release connection
2016-08-28 14:01:01,140 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -
:::- OdbcConnectionPool - connections in use: 0
2016-08-28 14:01:01,140 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- Call
to ODBC DB succeeded
2016-08-28 14:01:01,140 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.CustomerLog -:::- Write
customer log message: 24873
2016-08-28 14:01:01,141 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- ODBC
ID Store Operation: Get all user attrs. Username=user1, Setting pgSQL.SecurityLevel to 10
2016-08-28 14:01:01,141 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- ODBC
ID Store Operation: Get all user attrs. Username=user1, Setting IdleTimeout to default value : 5
2016-08-28 14:01:01,141 DEBUG [Thread-3076][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- ODBC
ID Store Operation: Get all user attrs. Username=user1, Setting pgSQL.IdleTimeout to 5
```

References

- [Cisco Identity Services Engine 2.1 Administration Guide - ODBC Configuration](#)
- [Configure ISE 2.1 with MS SQL using ODBC](#)
- [PostgreSQL: Documentation](#)