

# Configurer ISE 2.1 avec MS SQL à l'aide d'ODBC

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## Introduction

Ce document décrit comment configurer Identity Services Engine (ISE) avec Microsoft Standard Query Language (SQL) Server pour l'authentification ISE à l'aide d'Open Database Connectivity (ODBC)

**Note:** L'authentification ODBC (Open Database Connectivity) nécessite ISE pour pouvoir récupérer un mot de passe utilisateur en texte clair. Le mot de passe peut être chiffré dans la base de données, mais doit être déchiffré par la **procédure stockée**.

## Conditions préalables

### Conditions requises

Cisco vous recommande de prendre connaissance des rubriques suivantes :

- Concepts de base de données et ODBC
- Microsoft SQL Server

### Components Used

Les informations contenues dans ce document sont basées sur les versions de matériel et de logiciel suivantes :

- Identity Services Engine 2.1
- MSSQL Server 2008 R2

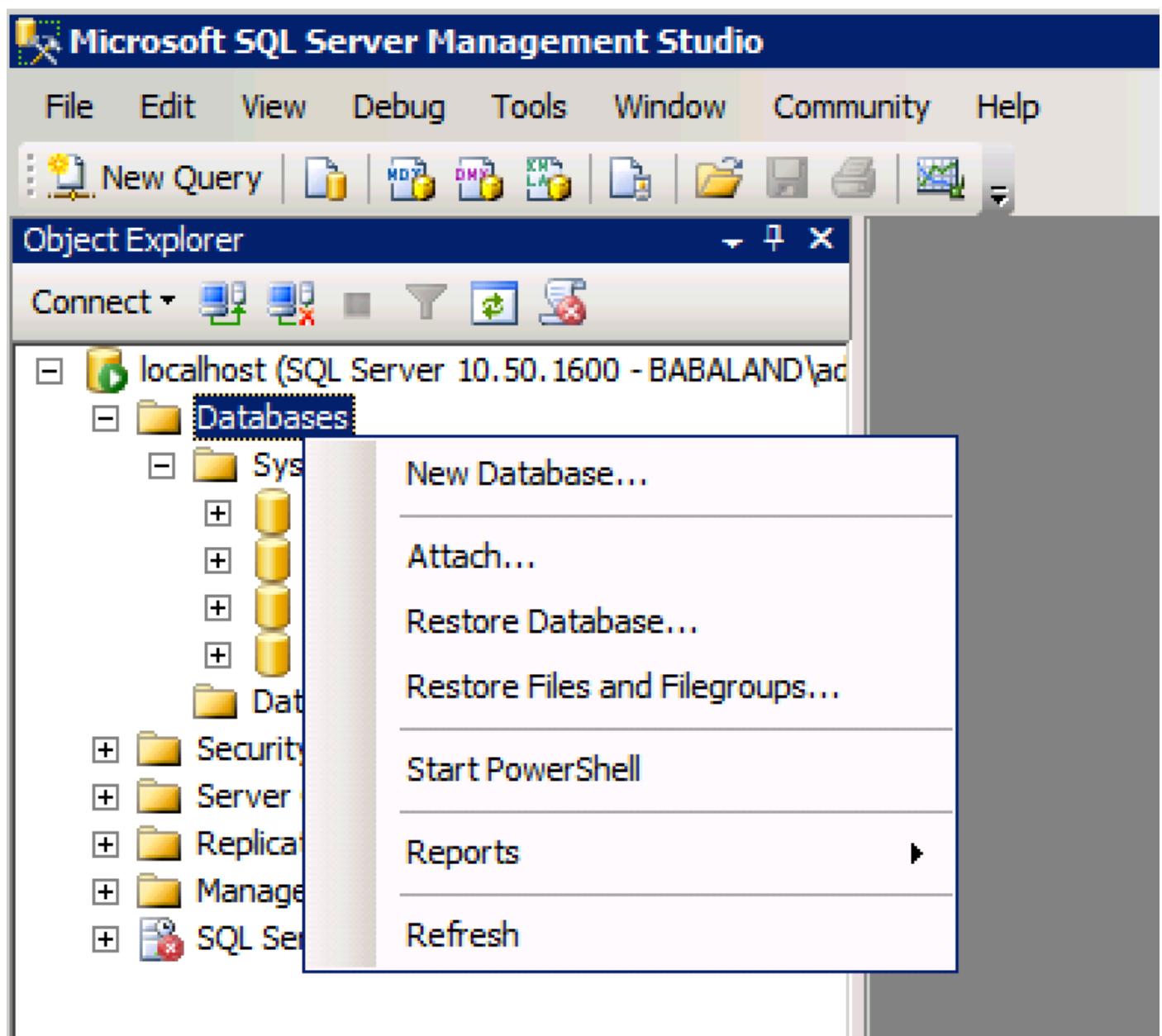
# Configuration

## Étape 1. Configuration de base de MS SQL

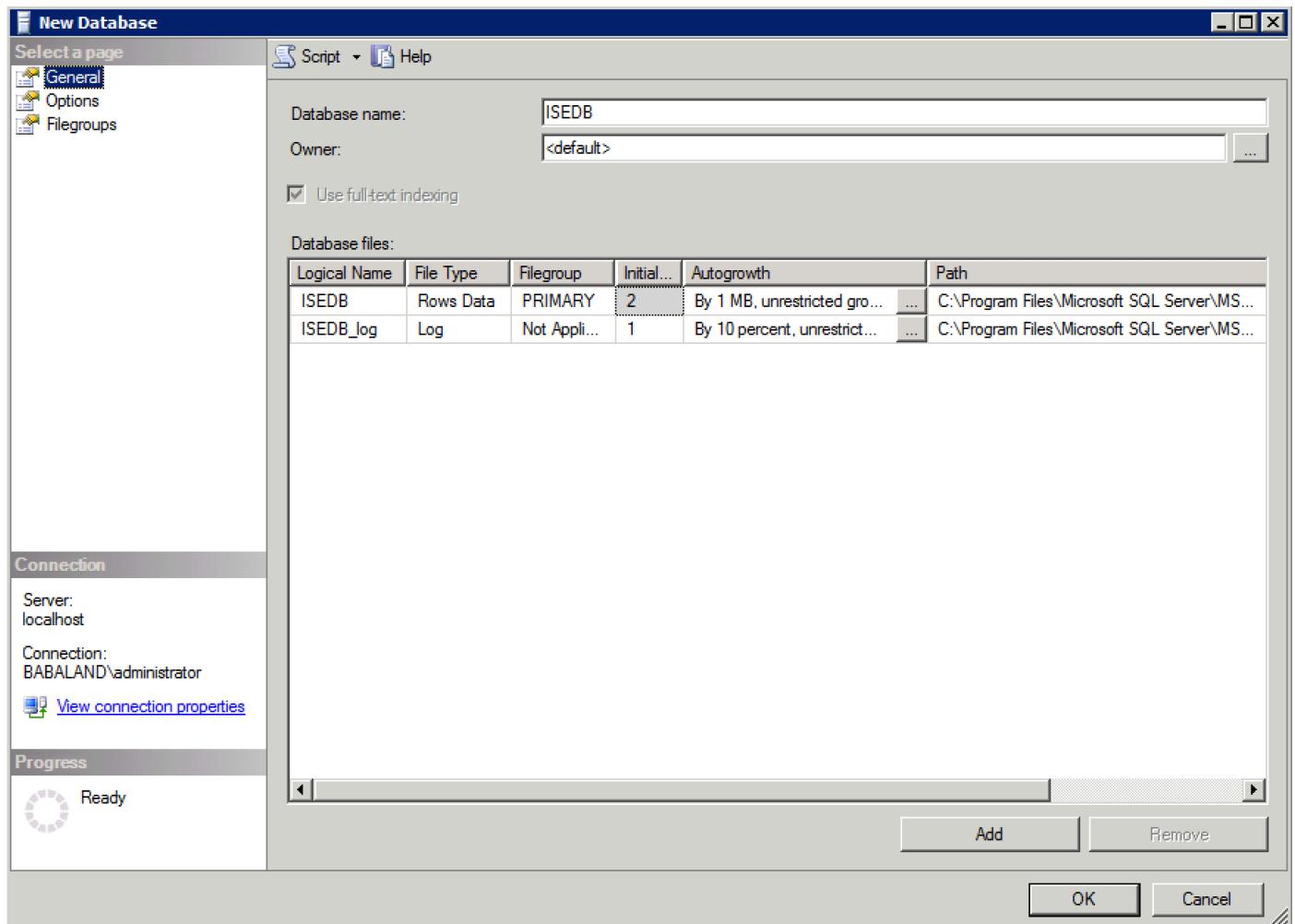
Les étapes de configuration incluent la création d'une base de données et d'un utilisateur pour ISE avec des autorisations d'accès à cette base de données.

**Note:** ISE prend uniquement en charge l'authentification SQL, et non le compte Windows. Si vous devez modifier le mode d'authentification, reportez-vous à [Modifier le mode d'authentification du serveur](#).

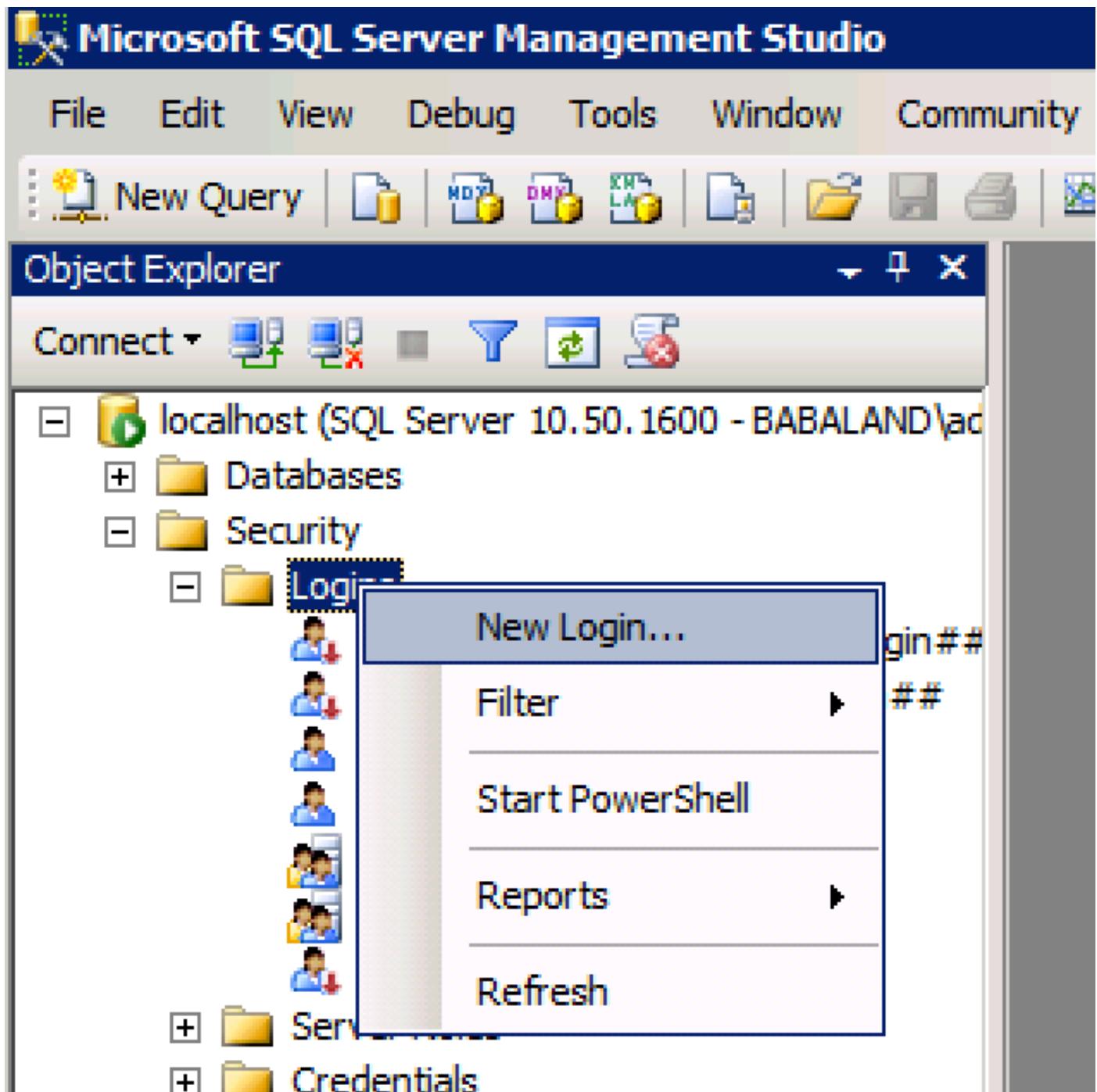
1. Ouvrez SQL Server Management Studio (**menu Démarrer > Microsoft SQL Server 2008 R2**) et créez une base de données :



2. Laissez les options par défaut ou ajustez les paramètres de base de données comme indiqué dans cette image :



3. Créez un utilisateur et définissez les autorisations comme indiqué dans les images ci-dessous :



**Login - New**

**Select a page**

- General
- Server Roles
- User Mapping
- Securables
- Status

**Script** **Help**

**Login name:** ISEDBUser **Search...**

Windows authentication  
 SQL Server authentication

**Password:**  **Confirm password:**

Specify old password  
**Old password:**

Enforce password policy  
 Enforce password expiration  
 User must change password at next login

Mapped to certificate  
 Mapped to asymmetric key  
 Map to Credential

**Mapped Credentials**

Credential	Provider

**Add** **Remove**

**Connection**

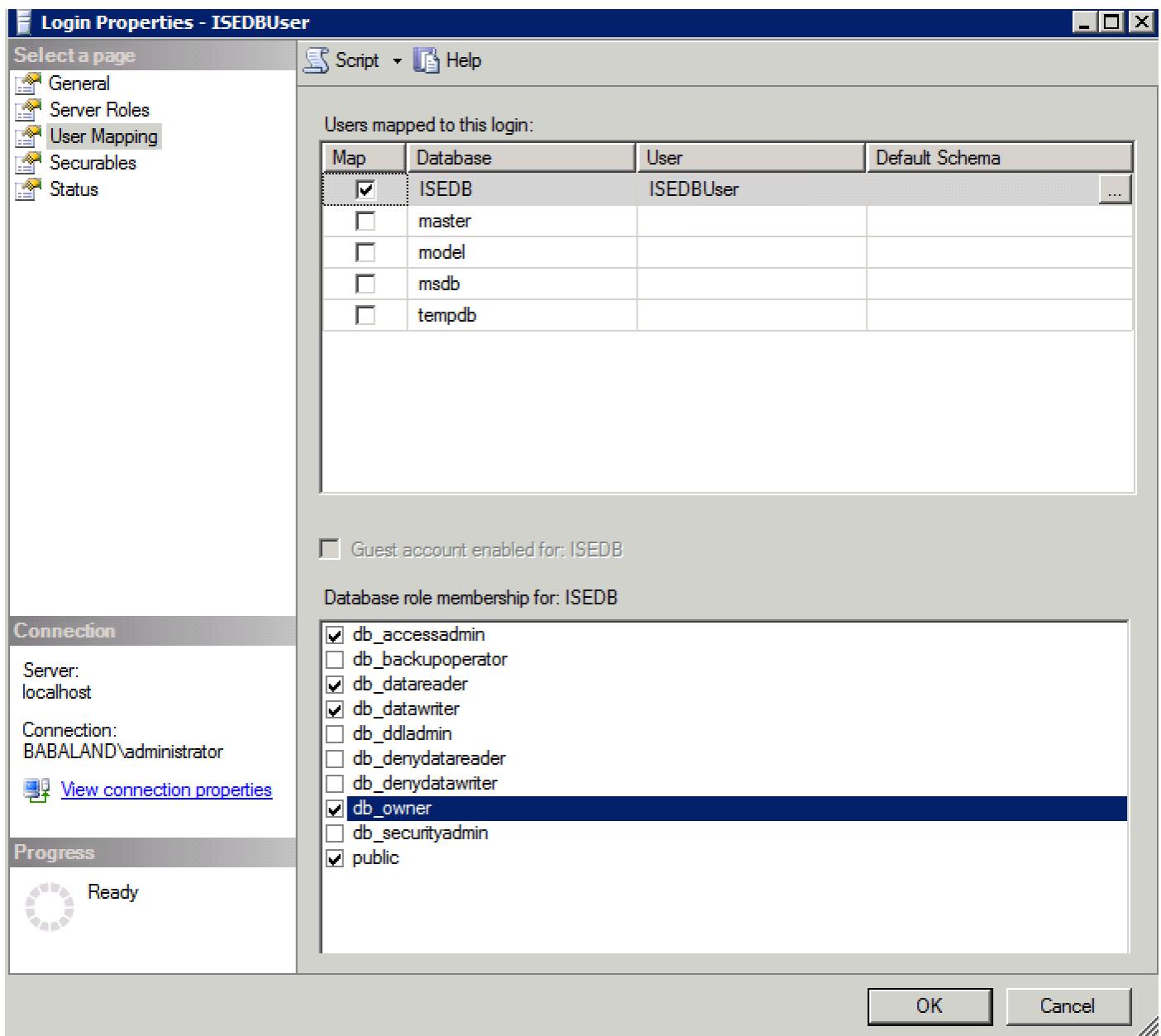
Server: localhost  
Connection: BABALAND\administrator  
[View connection properties](#)

**Progress**

Ready

**Default database:** ISEDB **Default language:** <default>

**OK** **Cancel**



## Étape 2. Configuration de base d'ISE

Créez une **source d'identité ODBC** à Administration > Source d'identité externe > ODBC et testez la connexion :

## ODBC Identity Source

General

Connection

Stored Procedures

Attributes

Groups

## ODBC DB connection details

* Hostname/IP[:port]	bast-ad-ca.cisco.com
* Database name	ISEDB
Admin username	ISEDBUser
Admin password	*****
* Timeout	5
* Retries	1
* Database type	Microsoft SQL Server

**Test Connection**

## Test connection

 Connection succeeded

## Stored Procedures

- ! Plain text password authentication - Not Configured
- ! Plain text password fetching - Not Configured
- ! Check username or machine exists - Not Configured
- ! Fetch groups - Not Configured
- ! Fetch attributes - Not Configured

Close

## Étape 3. Configurer l'authentification utilisateur

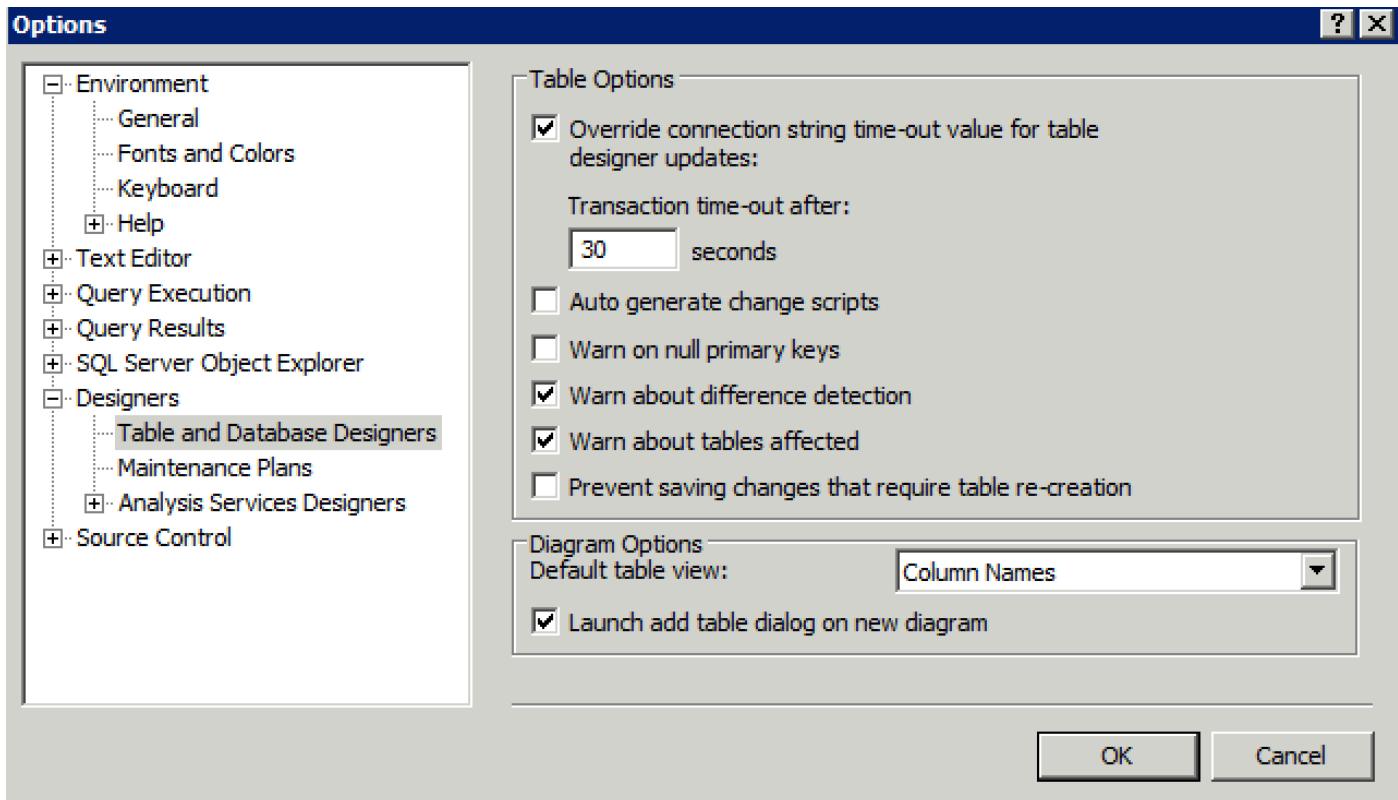
L'authentification ISE vers ODBC utilise des procédures stockées. La procédure stockée pour l'authentification renvoie le **jeu de résultats** avec cette syntaxe :

Valeur	Type
Résultat	Entier
Groupe (pour la compatibilité avec ACS 4.2 uniquement)	Entier ou varchar(255)
Informations sur le compte	varchar(255)
Chaîne d'erreur	varchar(255)

Pour d'autres procédures, reportez-vous au [Guide d'administration de Cisco Identity Services Engine 2.1](#)

**Astuce :** Il est possible de retourner des paramètres nommés au lieu du jeu de résultats. C'est juste un type de sortie différent, la fonctionnalité est la même.

1. Naviguez jusqu'aux options et décochez la case **Empêcher l'enregistrement des modifications nécessitant une recréation de la table** (facultatif) :



2. Créez la table. Assurez-vous de définir les paramètres d'identité sur la **clé primaire**. Pour définir **user\_id** comme **clé primaire**, cliquez avec le bouton droit sur le **nom de colonne** :

Column Name	Data Type	Allow Nulls
user_id	int	<input type="checkbox"/>
username	varchar(MAX)	<input type="checkbox"/>
password	varchar(MAX)	<input type="checkbox"/>

SQL final :

```
CREATE TABLE [dbo].[ISE_Users](
[user_id] [int] IDENTITY(1,1) NOT NULL,
[username] [varchar](max) NOT NULL,
[password] [varchar](max) NOT NULL,
CONSTRAINT [PK_ISE_Users] PRIMARY KEY CLUSTERED
```

```

(
[User_id] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS =
ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
) ON [PRIMARY]

```

**3. Exécutez cette requête pour insérer un utilisateur :**

```
insert into ISE_Users(username,password) values('odbcuser1','odbcpass');
```

**4. Créez une procédure pour l'authentification par mot de passe en texte brut (utilisée pour PAP, méthode interne EAP-GTC, TACACS) :**

```

CREATE PROCEDURE [dbo].[ISEAuthUserPlainReturnsRecordset]
@username varchar(255), @password varchar(255)
AS
BEGIN
IF EXISTS( SELECT username
FROM ISE_Users
WHERE username = @username
AND password = @password )
SELECT 0,11,'This is a very good user, give him all access','No Error'
FROM ISE_Users
WHERE username = @username
ELSE
SELECT 3,0,'odbc','ODBC Authen Error'
END

```

**5. Créez une procédure pour l'extraction du mot de passe en texte brut (utilisée pour CHAP, MSCHAPv1/v2, EAP-MD5, LEAP, méthode interne EAP-MSCHAPv2, TACACS) :**

```

CREATE PROCEDURE [dbo].[ISEFetchPasswordReturnsRecordset]
@username varchar(255)
AS
BEGIN
IF EXISTS( SELECT username
FROM ISE_Users
WHERE username = @username)
SELECT 0,11,'This is a very good user, give him all access','No Error',password
FROM ISE_Users
WHERE username = @username
ELSE
SELECT 3,0,'odbc','ODBC Authen Error'
END

```

**6. Créer une procédure pour vérifier l'existence d'un nom d'utilisateur ou d'une machine (utilisée pour MAB, reconnexion rapide de PEAP, EAP-FAST et EAP-TTLS) :**

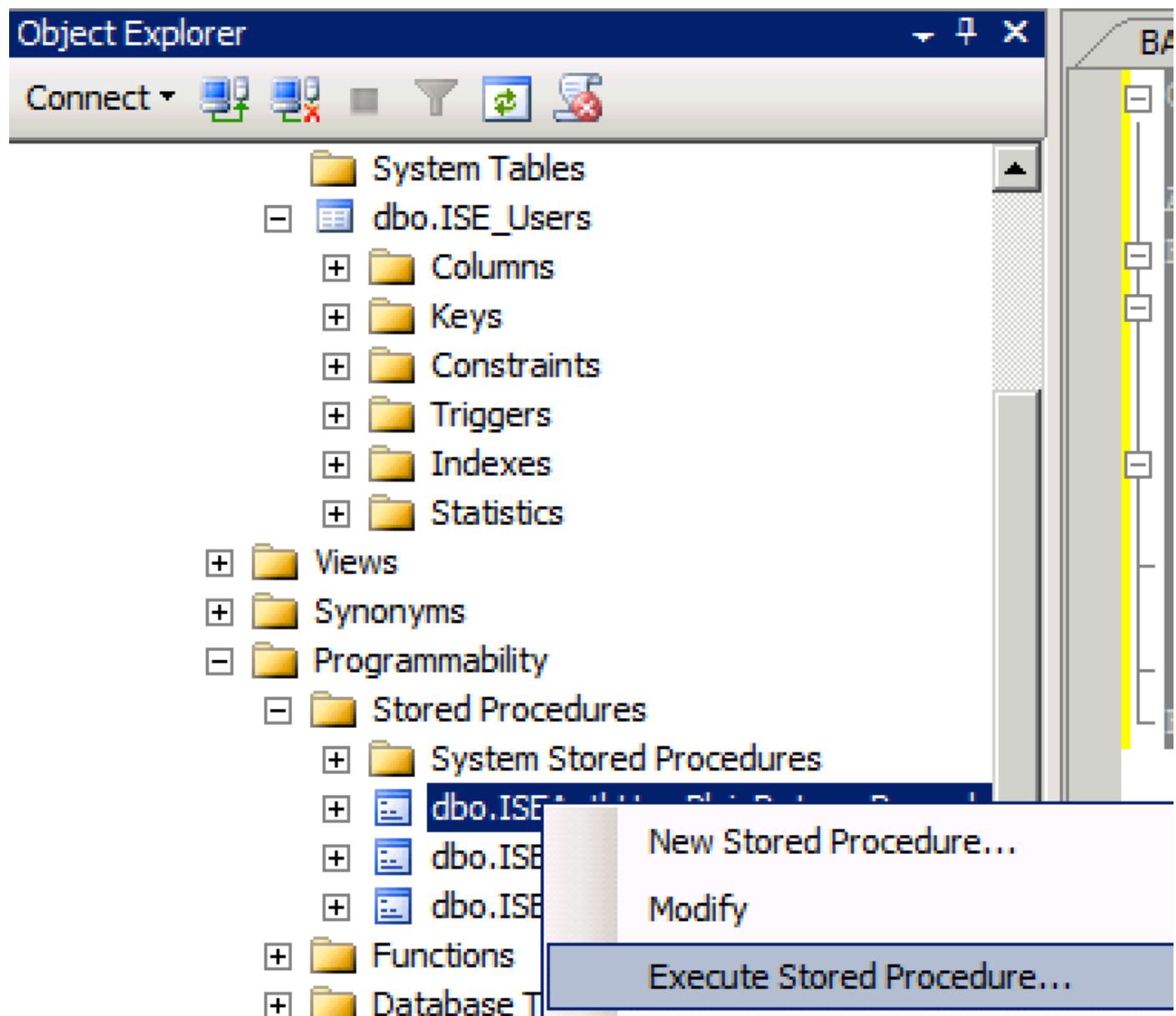
```

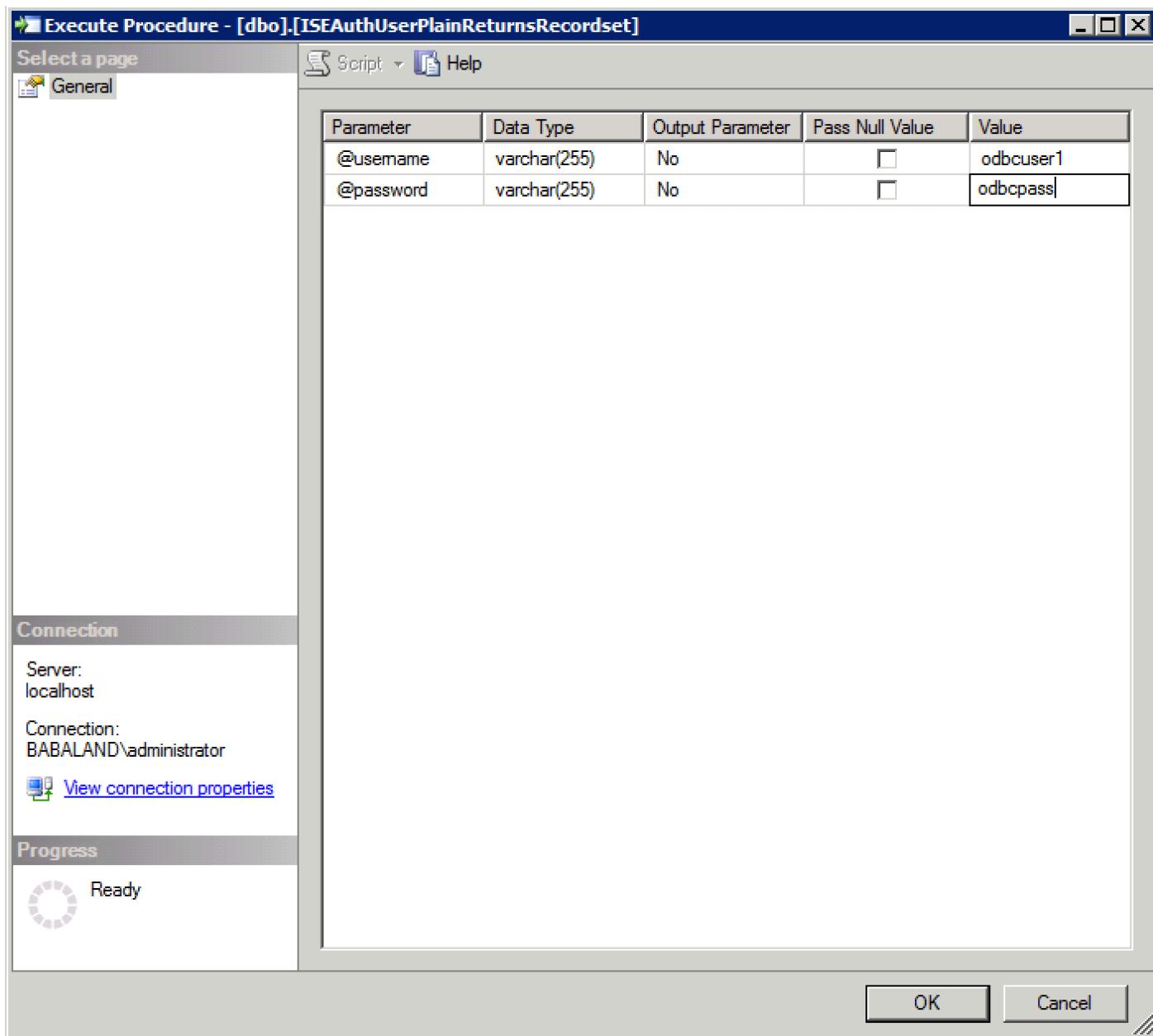
CREATE PROCEDURE [dbo].[ISEUserLookupReturnsRecordset]
@username varchar(255)
AS

```

```
BEGIN
IF EXISTS( SELECT username
FROM ISE_Users
WHERE username = @username)
SELECT 0,11,'This is a very good user, give him all access','No Error'
FROM ISE_Users
WHERE username = @username
ELSE
SELECT 3,0,'odbc','ODBC Authen Error'
END
```

7. Tester les procédures créées :





SQLQuery5.sql -...istrator (57) BAST-AD-CA.IS...dbo.ISE\_Users SQLQuery2.sql -...istrator (52)\* BAST-AD-CA.IS...dbo.ISE\_Users

```
USE [ISEDB]
GO

DECLARE @return_value int

EXEC    @return_value = [dbo].[ISEAuthUserPlainReturnsRecordset]
        @username = N'odbcuser1',
        @password = N'odbcpass'

SELECT  'Return Value' = @return_value
GO
```

Results Messages

	(No column name)	(No column name)	(No column name)	(No column name)
1	0	11	This is a very good user, give him all access	No Error

Tester d'autres procédures de la même manière.

## 8. Configurez les procédures sur ISE et enregistrez :

[ODBC List > ISE\\_ODBC](#)

### ODBC Identity Source

General	Connection	Stored Procedures	Attributes	Groups
		Stored procedure type Returns recordset		
Plain text password authentication		ISEAuthUserPlainReturnsRecordset	<a href="#">i</a> <a href="#">+</a>	
Plain text password fetching		ISEFetchPasswordReturnsRecordset	<a href="#">i</a> <a href="#">+</a>	
Check username or machine exists		ISEUserLookupReturnsRecordset	<a href="#">i</a> <a href="#">+</a>	
		Fetch groups	<a href="#">i</a> <a href="#">+</a>	
		Fetch attributes	<a href="#">i</a> <a href="#">+</a>	
Search for MAC Address in format		xx-xx-xx-xx-xx-xx	<a href="#">i</a>	

## 9. Créez une règle d'authentification simple à l'aide d'ODBC et testez-la :

[▼ Authentication Policy](#)

<input checked="" type="checkbox"/> MAB	: If Wired_MAB OR Wireless_MAB	Allow Protocols : Default Network Access	and	<a href="#">Edit   ▾</a>
<input checked="" type="checkbox"/> Default	:use Internal Endpoints			
<input checked="" type="checkbox"/> Dot1X	: If Wired_802.1X OR Wireless_802.1X	Allow Protocols : Default Network Access	and	<a href="#">Edit   ▾</a>
<input checked="" type="checkbox"/> Default	:use All_User_ID_Stores			
<input checked="" type="checkbox"/> <a href="#">test_aaa</a>	: If Radius:Service-Type EQUALS Login	Allow Protocols : Default Network Access	and	<a href="#">Edit   ▾</a>
<input checked="" type="checkbox"/> Default	:use ISE_ODBC			

```
b3560#test aaa group ISE236 odbcuser1 odbcpass legacy
Attempting authentication test to server-group ISE236 using radius
User was successfully authenticated.
```

Overview		Steps
Event	5200 Authentication succeeded	11001 Received RADIUS Access-Request
Username	odbcuser1	11017 RADIUS created a new session
Endpoint Id		11117 Generated a new session ID for a 3rd party NAD
Endpoint Profile		15049 Evaluating Policy Group
Authentication Policy	Default >> test_aaa >> Default	15008 Evaluating Service Selection Policy
Authorization Policy	Default >> Default	15048 Queried PIP - Radius.NAS-Port-Type
Authorization Result	PermitAccess	15048 Queried PIP - Normalised Radius.RadiusFlowType (4 times)
		15048 Queried PIP - Radius.Service-Type
		15004 Matched rule - test_aaa
		15041 Evaluating Identity Policy
		15006 Matched Default Rule
		15013 Selected Identity Source - ISE_ODBC
		24852 Perform plain text password authentication in external ODBC database - ISE_ODBC
		24849 Connecting to external ODBC database - ISE_ODBC
		24850 Successfully connected to external ODBC database - ISE_ODBC
		24855 Expect external ODBC database stored procedure to return results in a recordset - ISE_ODBC
		22037 Authentication Passed
		15036 Evaluating Authorization Policy
		15048 Queried PIP - Radius.User-Name
		15048 Queried PIP - Network Access.UseCase
		15048 Queried PIP - Normalised Radius.RadiusFlowType (5 times)
		15004 Matched rule - Default

## Étape 4. Configurer la récupération de groupe

1. Créez des tables contenant des groupes d'utilisateurs et une autre table utilisée pour le mappage de plusieurs à plusieurs :

```
CREATE TABLE [dbo].[Groups](
[Group_ID] [int] IDENTITY(1,1) NOT NULL,
[Group_Name] [varchar](max) NOT NULL,
[Group_Desc] [text] NOT NULL,
CONSTRAINT [PK_Groups] PRIMARY KEY CLUSTERED
(
[Group_ID] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
) ON [PRIMARY] TEXTIMAGE_ON [PRIMAR
```

```
CREATE TABLE [dbo].[User_Groups_Mapping](
[user_id] [int] NOT NULL,
[group_id] [int] NOT NULL
) ON [PRIMARY]
```

```
ALTER TABLE dbo.User_Groups_Mapping ADD CONSTRAINT
FK_User_Groups_Mapping_Groups FOREIGN KEY
(
group_id
) REFERENCES dbo.Groups
(
Group_ID
) ON UPDATE CASCADE
ON DELETE CASCADE
```

```
GO
ALTER TABLE dbo.User_Groups_Mapping ADD CONSTRAINT
FK_User_Groups_Mapping_ISE_Users FOREIGN KEY
(
```

```

user_id
) REFERENCES dbo.ISE_Users
(
user_id
) ON UPDATE CASCADE
ON DELETE CASCADE

```

2. Ajoutez des groupes et des mappages de sorte que ODBCUSER1 appartient aux deux groupes :

```

INSERT [dbo].[Groups] ([Group_ID], [Group_Name], [Group_Desc]) VALUES (1, N'ODBCGroup1', N'My
Nice Group1')
INSERT [dbo].[User_Groups_Mapping] ([user_id], [group_id]) VALUES (1, 1)
INSERT [dbo].[Groups] ([Group_ID], [Group_Name], [Group_Desc]) VALUES (2, N'ODBCGroup2', N'My
Nice Group2')
INSERT [dbo].[User_Groups_Mapping] ([user_id], [group_id]) VALUES (1, 2)

```

3. Créez une procédure de récupération de groupe :

```

CREATE PROCEDURE [dbo].[ISEGroupsRetrieval]
@username varchar(255), @result int output
AS
BEGIN
if exists (select * from ISE_Users where username = @username)
begin
set @result = 0
select Group_Name from Groups where group_id in (select group_ID from User_Groups_Mapping where
User_Groups_Mapping.USER_ID IN (select USER_ID from ISE_Users where username=@username ) )
end
else
set @result = 1
END

```

4. Mapper à Récupérer les groupes :

[ODBC List > ISE\\_ODBC](#)

### ODBC Identity Source

General	Connection	Stored Procedures	Attributes	Groups
		<p>Stored procedure type <input type="button" value="Returns recordset"/></p> <p>Plain text password authentication <input type="text" value="ISEAuthUserPlainReturnsRecordset"/> <input type="button" value="i"/> <input type="button" value="+"/></p> <p>Plain text password fetching <input type="text" value="ISEFetchPasswordReturnsRecordset"/> <input type="button" value="i"/> <input type="button" value="+"/></p> <p>Check username or machine exists <input type="text" value="ISEUserLookupReturnsRecordset"/> <input type="button" value="i"/> <input type="button" value="+"/></p> <hr/> <p>Fetch groups <input type="text" value="ISEGroupsRetrieval"/> <input type="button" value="i"/> <input type="button" value="+"/></p> <p>Fetch attributes <input type="text" value="ISEAttrsRetrieval"/> <input type="button" value="i"/> <input type="button" value="+"/></p> <p>Search for MAC Address in format <input type="text" value="xx-xx-xx-xx-xx-xx"/> <input type="button" value="i"/></p>		

5. Récupérez les groupes et ajoutez-les à la source d'identité ODBC :

**ODBC Identity Source**

General

Connection

Stored Procedures

Attributes

Groups

**Select Groups from ODBC**

Sample User or Machine

Name	Name in ISE
ODBCGroup1	ODBCGroup1
ODBCGroup2	ODBCGroup2

**6. Ajoutez un autre utilisateur qui n'appartient à aucun groupe :**

```
insert into ISE_Users(username,password) values('odbouser2','odbcpass');
```

**7. Créez un ensemble de stratégies spécifique et tester :**

Policy Sets Profiling Posture Client Provisioning > Policy Elements

**Policy Sets**

Search policy names & descriptions.

**Summary of Policies**  
A list of all your policies

- Global Exceptions
- Rules across entire deployment
- TestAAA** (Selected)
- VPN
- Default

Default Policy Set

**Authentication Policy**

Status	Name	Description	Conditions	Actions
<input checked="" type="checkbox"/>	TestAAA		Radius:Service-Type EQUALS Login	<input type="button" value="Edit"/>

**Authorization Policy**

**Exceptions (0)**

**Standard**

Status	Rule Name	Conditions (identity groups and other conditions)	Permissions	Actions
<input checked="" type="checkbox"/>	Group1Access	if ISE_ODBC:ExternalGroups EQUALS ODBCGroup1	then PermitAccess	<input type="button" value="Edit"/>
<input checked="" type="checkbox"/>	Default	if no matches, then	DenyAccess	<input type="button" value="Edit"/>

```
b3560#test aaa group ISE236 odbcuser2 odbcpass legacy
Attempting authentication test to server-group ISE236 using radius
User authentication request was rejected by server.
```

```
b3560#test aaa group ISE236 odbcuser1 odbcpass legacy
Attempting authentication test to server-group ISE236 using radius
User was successfully authenticated.
```

AuthorizationPolicyMatchedRule	Group1Access
CPMSessionID	0a3027eci0HeVTM3/bn5vLXkWMcJ0em5rzUDaOSnbMmAvL7jcfY
ISEPolicySetName	TestAAA
AllowedProtocolMatchedRule	Default
IdentitySelectionMatchedRule	Default
Network Device Profile	Cisco
Location	Location#All Locations
Device Type	Device Type#All Device Types
ExternalGroups	ODBCGroup1
ExternalGroups	ODBCGroup2
RADIUS Username	odbcuser1

## Étape 5. Configurer la récupération des attributs

1. Afin de simplifier cet exemple, une table plate est utilisée pour les attributs :

```
CREATE TABLE [dbo].[User_Attributes](
[user_id] [int] NOT NULL,
[Attribute_Name] [varchar](max) NOT NULL,
[Attribute_Value] [varchar](max) NOT NULL
) ON [PRIMARY]
```

GO

```
ALTER TABLE [dbo].[User_Attributes] WITH CHECK ADD CONSTRAINT [FK_User_Attributes_ISE_Users]
FOREIGN KEY([user_id])
REFERENCES [dbo].[ISE_Users] ([user_id])
ON UPDATE CASCADE
ON DELETE CASCADE
GO
```

2. Créez un attribut pour l'un des utilisateurs :

```
INSERT [dbo].[User_Attributes] ([user_id], [Attribute_Name], [Attribute_Value]) VALUES (2,
N'AwsomenessLevel', N'100')
INSERT [dbo].[User_Attributes] ([user_id], [Attribute_Name], [Attribute_Value]) VALUES (2,
N'UserType', N'admin')
```

3. Créer une procédure stockée :

```
CREATE PROCEDURE [dbo].[ISEAttrsRetrieval]
@username varchar(255), @result int output
AS
BEGIN
if exists (select * from ISE_Users where username = @username)
begin
```

```

set @result = 0
select attribute_name , attribute_value from user_attributes where USER_ID in(SELECT USER_ID
from ISE_Users where username = @username)
end
else
set @result = 1
END

```

#### 4. Mapper les attributs de récupération :

[ODBC List > ISE\\_ODBC](#)

#### ODBC Identity Source

General	Connection	Stored Procedures	Attributes	Groups
Stored procedure type Returns recordset				
Plain text password authentication	ISEAuthUserPlainReturnsRecordset <a href="#">i</a> <a href="#">+</a>			
Plain text password fetching	ISEFetchPasswordReturnsRecordset <a href="#">i</a> <a href="#">+</a>			
Check username or machine exists	ISEUserLookupReturnsRecordset <a href="#">i</a> <a href="#">+</a>			
<hr/>				
Fetch groups	ISEGroupsRetrieval <a href="#">i</a> <a href="#">+</a>			
Fetch attributes	ISEAttrsRetrieval <a href="#">i</a> <a href="#">+</a>			
Search for MAC Address in format	xx-xx-xx-xx-xx-xx <a href="#">i</a>			

#### 5. Récupère les attributs :

**Select Attributes from ODBC** X

Sample User or Machine		<input type="text" value="odbcuser2"/> <a href="#">i</a>		<a href="#">Retrieve Attributes</a>		
<input type="checkbox"/>	Name	Type	▲	Default Value	Name in ISE	
<input type="checkbox"/>	AwsomenessLevel	STRING		100	AwsomenessLevel	
<input type="checkbox"/>	UserType	STRING		admin	UserType	

---

[OK](#)
[Cancel](#)

## 6. Ajuster les règles ISE :

The screenshot shows the Cisco ISE Policy Rules interface. It displays three rules:

- Group1Access**: If ISE\_ODBC:ExternalGroups EQUALS ODBCGroup1, then PermitAccess. Status: Enabled.
- AwesomeUser**: If ISE\_ODBC:AwsomenessLevel EQUALS 100, then PermitAccess. Status: Enabled.
- Default**: If no matches, then DenyAccess. Status: Enabled.

Below the rules, a log entry is shown:

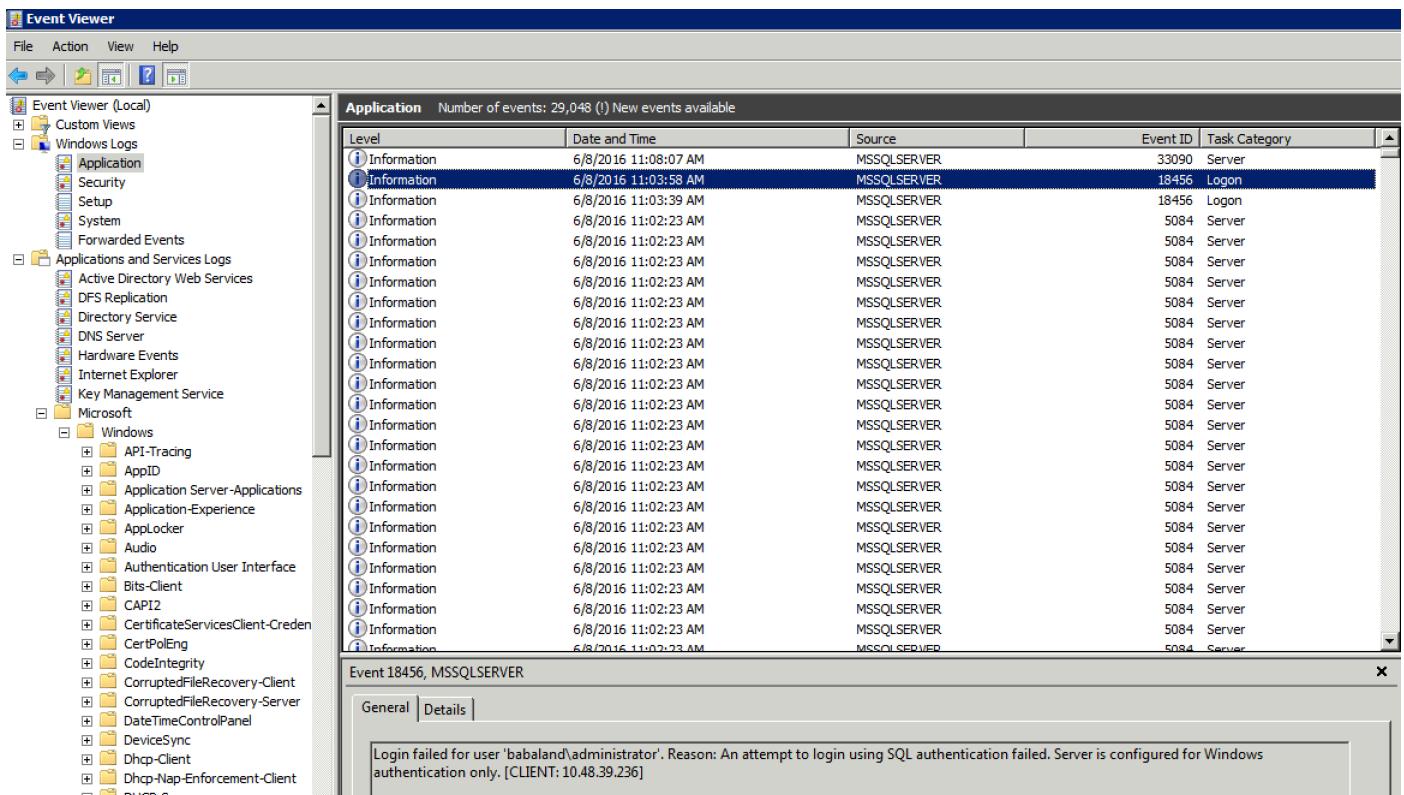
Time	Status	Details	Repeat ...	Identity	Endpoint ID	Endpoint Pr...	Authenticat...	Authorization Policy	Authorizatio...
Jun 08, 2016 12:21:45.596 PM	✓	odbouser2			Endpoint ID	Endpoint Prof...	Authenticatio...	Authorization Policy	Authorization
							TestAAA >> ...	TestAAA >> AwesomeUser	PermitAccess

## Dépannage

Si la connexion échoue, vérifiez le journal des événements de windows. Sur ISE, utilisez la commande **show logging application prrt-management.log tail** lors de la tentative de connexion.

Exemple de mode d'authentification incorrect :

```
bise236/admin# sh logg app prrt-management.log tail
2016-06-08 09:03:59,822 WARN [admin-http-pool177][][]
cisco.cpm.odbcidstore.impl.MSSQLServerDbAccess --:bastien::: Connection to ODBC DB failed.
Exception: com.microsoft.sqlserver.jdbc.SQLOLEDBException: Login failed for user 'babaland\administrator'. ClientConnectionId:c74ade15-4f34-415a-9a94-4c54c58c0fc3
com.microsoft.sqlserver.jdbc.SQLServerException: Login failed for user 'babaland\administrator'. ClientConnectionId:c74ade15-4f34-415a-9a94-4c54c58c0fc3
at
com.microsoft.sqlserver.jdbc.SQLServerException.makeFromDatabaseError(SQLServerException.java:216)
at com.microsoft.sqlserver.jdbc.TDSTokenHandler.onEOF(tdsparser.java:254)
at com.microsoft.sqlserver.jdbc.TDSParseHandler.parse(tdsparser.java:84)
at com.microsoft.sqlserver.jdbc.SQLServerConnection.sendLogon(SQLServerConnection.java:2908)
at com.microsoft.sqlserver.jdbc.SQLServerConnection.logon(SQLServerConnection.java:2234)
at com.microsoft.sqlserver.jdbc.SQLServerConnection.access$000(SQLServerConnection.java:41)
at
com.microsoft.sqlserver.jdbc.SQLServerConnection$LogonCommand.doExecute(SQLServerConnection.java:2220)
at com.microsoft.sqlserver.jdbc.TDSCommand.execute(IOBuffer.java:5696)
at
com.microsoft.sqlserver.jdbc.SQLServerConnection.executeCommand(SQLServerConnection.java:1715)
at com.microsoft.sqlserver.jdbc.SQLServerConnection.connectHelper(SQLServerConnection.java:1326)
```



## Exemple d'autorisations manquantes de l'utilisateur pour ouvrir la base de données :

```

2016-06-08 09:13:57,842 WARN [admin-http-pool159][]]
cisco.cpm.odbcidstore.impl.MSSQLServerDbAccess -:bastien::: Connection to ODBC DB failed.
Exception: com.microsoft.sqlserver.jdbc.SQLServerException: Cannot open database "ISEDB"
requested by the login. The login failed. ClientConnectionId:299c2956-6946-4282-b3ca-
2aa86642a821
com.microsoft.sqlserver.jdbc.SQLServerException: Cannot open database "ISEDB" requested by the
login. The login failed. ClientConnectionId:299c2956-6946-4282-b3ca-2aa86642a821
at
com.microsoft.sqlserver.jdbc.SQLServerException.makeFromDatabaseError(SQLServerException.java:21
6)
at com.microsoft.sqlserver.jdbc.TDSTokenHandler.onEOF(tdsparser.java:254)
at com.microsoft.sqlserver.jdbc.TDSParser.parse(tdsparser.java:84)
at com.microsoft.sqlserver.jdbc.SQLServerConnection.sendLogon(SQLServerConnection.java:2908)
at com.microsoft.sqlserver.jdbc.SQLServerConnection.logon(SQLServerConnection.java:2234)
at com.microsoft.sqlserver.jdbc.SQLServerConnection.access$000(SQLServerConnection.java:41)

```

The screenshot shows the Windows Event Viewer interface. The left pane displays a tree view of logs, including Application, Security, Setup, System, Forwarded Events, Applications and Services Logs, Microsoft (Windows, API-Tracing, AppID, Application Server-Applications, Application-Experience, AppLocker, Audio, Authentication User Interface, Bits-Client, CAPI2, CertificateServicesClient-Credent, CertPolEng, CodeIntegrity, CorruptedFileRecovery-Client, CorruptedFileRecovery-Server, DateTimeControlPanel, DeviceSync, Dhcp-Client, Dhcp-Nap-Enforcement-Client, and DHCP-Server). The right pane shows a table of events under the 'Application' log. The table has columns for Level, Date and Time, Source, Event ID, and Task Category. Most events are 'Information' level, dated 6/8/2016 11:13:21 AM, from source MSSQLSERVER, with Event ID 18456 and Task Category 'Logon'. There are also other 'Information' events with different Event IDs like 3408, 9688, 9666, etc. A specific event (Event 18456) is selected, showing a tooltip with the message: 'Login failed for user 'ISEDBUser'. Reason: Failed to open the explicitly specified database. [CLIENT: 10.48.39.236]'.

Afin de dépanner les opérations de base de données, activez les composants de journalisation **odbc-id-store** au niveau DEBUG sous **Administration > System > Logging > Debug Log Configuration**.

Les journaux sont placés dans le fichier **prrt-management.log**.

Exemple pour **odbuser2** :

```

2016-06-08 12:26:56,009 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- ODBC
ID Store Operation: Authenticate Plain Text Password. Username=odbouser2,
SessionID=0a3027ecLA_rJLKS55QAzrRvluGWzdYe67rIgG3MMQcpE8yKw
2016-06-08 12:26:56,012 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.CustomerLog -:::- Write
customer log message: 24852
2016-06-08 12:26:56,012 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -:
:::- OdbcConnectionPool - get connection
2016-06-08 12:26:56,012 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -:
:::- OdbcConnectionPool - use existing connection
2016-06-08 12:26:56,013 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -:
:::- OdbcConnectionPool - connections in use: 1
2016-06-08 12:26:56,013 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::- 
Authenticate plain text password
2016-06-08 12:26:56,013 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::- 
Prepare stored procedure call, procname=ISEAuthUserPlainReturnsRecordset
2016-06-08 12:26:56,013 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::- 
Using recordset to obtain stored procedure result values
2016-06-08 12:26:56,013 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.CustomerLog -:::- Write
customer log message: 24855
2016-06-08 12:26:56,013 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::- 
Text: {call ISEAuthUserPlainReturnsRecordset(?, ?)}
2016-06-08 12:26:56,013 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::- 
Setup stored procedure input parameters, username=odbouser2, password=***
2016-06-08 12:26:56,014 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::- 
Execute stored procedure call

```

```
2016-06-08 12:26:56,017 DEBUG [Thread-4051][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::-  
Process stored procedure results  
2016-06-08 12:26:56,017 DEBUG [Thread-4051][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::-  
Obtain stored procedure results from recordset  
2016-06-08 12:26:56,017 DEBUG [Thread-4051][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::-  
Received result recordset, number of columns=4  
2016-06-08 12:26:56,017 DEBUG [Thread-4051][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::-  
Results successfully parsed from recordset  
2016-06-08 12:26:56,018 DEBUG [Thread-4051][] cisco.cpm.odbclidstore.impl.OdbcConnectionPool -  
::::- OdbcConnectionPool - release connection  
2016-06-08 12:26:56,018 DEBUG [Thread-4051][] cisco.cpm.odbclidstore.impl.OdbcConnectionPool -  
::::- OdbcConnectionPool - connections in use: 0  
2016-06-08 12:26:56,018 DEBUG [Thread-4051][] cisco.cpm.odbclidstore.impl.OdbcIdStore -::::- Call  
to ODBC DB succeeded  
2016-06-08 12:26:56,018 DEBUG [Thread-4051][] cisco.cpm.odbclidstore.impl.OdbcAuthResult -::::-  
Authentication result: code=0, Connection succeeded=false, odbcDbErrorString=No Error,  
odbcStoredProcedureCustomerErrorString=null, accountInfo=This is a very good user, give him all  
access, group=11  
2016-06-08 12:26:56,019 DEBUG [Thread-4051][] cisco.cpm.odbclidstore.impl.CustomerLog -::::- Write  
customer log message: 24853  
2016-06-08 12:26:56,026 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcIdStore -::::- ODBC ID  
Store Operation: Get all user groups. Username=odbcuser2,  
SessionID=0a3027ecLA_rJLKsS5QAzurRvluGWzdYe67rIgcG3MMQcpE8yKnw  
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcIdStore -::::- ODBC ID  
Store Operation: Fetch user groups. Username=odbcuser2,  
SessionID=0a3027ecLA_rJLKsS5QAzurRvluGWzdYe67rIgcG3MMQcpE8yKnw  
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.CustomerLog -::::- Write  
customer log message: 24869  
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnectionPool -::::-  
OdbcConnectionPool - get connection  
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnectionPool -::::-  
OdbcConnectionPool - use existing connection  
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnectionPool -::::-  
OdbcConnectionPool - connections in use: 1  
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::-  
Fetch user groups  
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::-  
Prepare stored procedure call, procname=ISEGroupsRetrieval  
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::-  
Text: {call ISEGroupsRetrieval(?,?)}  
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::-  
Setup stored procedure input parameters, username=odbcuser2  
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::-  
Execute stored procedure call  
2016-06-08 12:26:56,031 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::-  
Process stored procedure results  
2016-06-08 12:26:56,032 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::-  
Received epmty result set, no groups/attributes data can be obtained  
2016-06-08 12:26:56,032 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::-  
Result code indicates success  
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnectionPool -::::-  
OdbcConnectionPool - release connection  
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnectionPool -::::-  
OdbcConnectionPool - connections in use: 0  
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcIdStore -::::- Call to  
ODBC DB succeeded  
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.CustomerLog -::::- Write  
customer log message: 24870  
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcIdStore -::::- ODBC ID  
Store Operation: Get all user groups. Got groups...  
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcIdStore -::::- ODBC ID  
Store Operation: Get all user groups. Username=odbcuser2, ExternalGroups=[]  
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcIdStore -::::- ODBC ID  
Store Operation: Fetch user attributes. Username=odbcuser2,
```

SessionID=0a3027ecLA\_rJLKsS5QAzrRvluGWzdYe67rIgcG3MMQcpE8yKnw  
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.CustomerLog -::::- Write customer log message: 24872  
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnectionPool -::::- OdbcConnectionPool - get connection  
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnectionPool -::::- OdbcConnectionPool - use existing connection  
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnectionPool -::::- OdbcConnectionPool - connections in use: 1  
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::- Fetch user attributes  
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::- Prepare stored procedure call, procname=ISEAttrsRetrieval  
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::- Text: {call ISEAttrsRetrieval(?,?)}  
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::- Setup stored procedure input parameters, username=odbcuser2  
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::- Execute stored procedure call  
2016-06-08 12:26:56,035 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::- Process stored procedure results  
2016-06-08 12:26:56,035 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::- Received result recordset, total number of columns=2  
2016-06-08 12:26:56,035 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::- According to column number expect multiple rows (vertical attributes/groups retured result)  
2016-06-08 12:26:56,035 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::- Fetched data: AwsomenessLevel=100  
2016-06-08 12:26:56,035 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::- Fetched data: UserType=admin  
2016-06-08 12:26:56,035 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::- Results successfully parsed from recordset  
2016-06-08 12:26:56,035 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnection -::::- Result code indicates success  
2016-06-08 12:26:56,036 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnectionPool -::::- OdbcConnectionPool - release connection  
2016-06-08 12:26:56,036 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcConnectionPool -::::- OdbcConnectionPool - connections in use: 0  
2016-06-08 12:26:56,036 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcIdStore -::::- Call to ODBC DB succeeded  
2016-06-08 12:26:56,036 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.CustomerLog -::::- Write customer log message: 24873  
2016-06-08 12:26:56,036 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcIdStore -::::- ODBC ID Store Operation: Get all user attrs. Username=odbcuser2, Setting ISE\_ODBC.AwsomenessLevel to 100  
2016-06-08 12:26:56,036 DEBUG [Thread-84][] cisco.cpm.odbclidstore.impl.OdbcIdStore -::::- ODBC ID Store Operation: Get all user attrs. Username=odbcuser2, Setting ISE\_ODBC.UserType to admin