

# ODBC를 사용하여 MS SQL을 사용하여 ISE 2.1을 구성합니다.

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## 소개

이 문서에서는 ODBC(Open Database Connectivity)를 사용하여 ISE 인증을 위해 Microsoft SQL(Standard Query Language) Server를 사용하여 ISE(Identity Services Engine)를 구성하는 방법에 대해 설명합니다.

**참고:**ODBC(Open Database Connectivity) 인증을 사용하려면 ISE가 일반 텍스트 사용자 비밀번호를 가져올 수 있어야 합니다.비밀번호는 데이터베이스에서 암호화할 수 있지만 **저장 프로시저**로 해독해야 합니다.

## 사전 요구 사항

### 요구 사항

다음 주제에 대한 지식을 보유하고 있으면 유용합니다.

- 데이터베이스 및 ODBC 개념
- Microsoft SQL Server

### 사용되는 구성 요소

이 문서의 정보는 다음 소프트웨어 및 하드웨어 버전을 기반으로 합니다.

- Identity Services Engine 2.1
- MSSQL Server 2008 R2

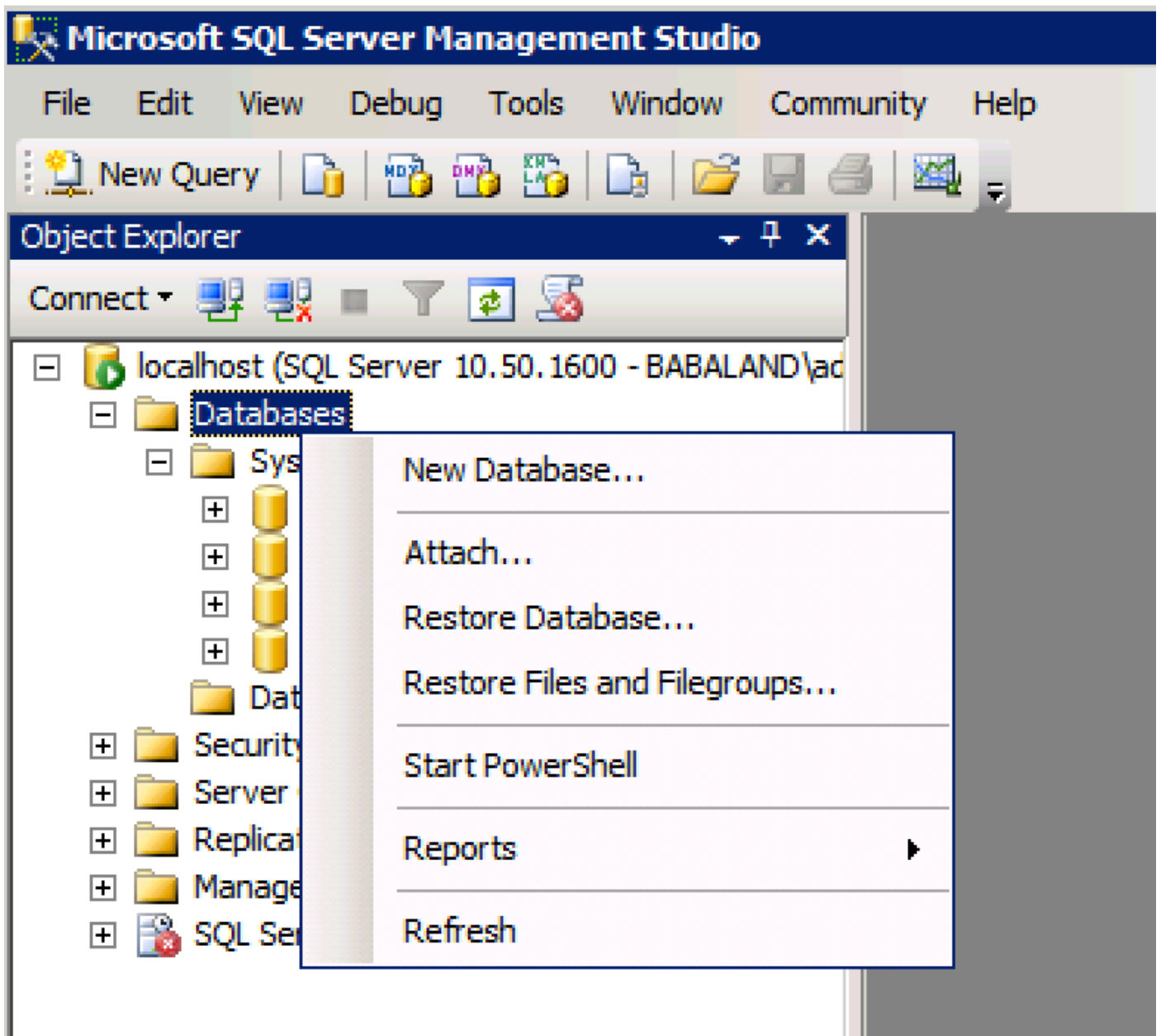
# 구성

## 1단계. MS SQL 기본 구성

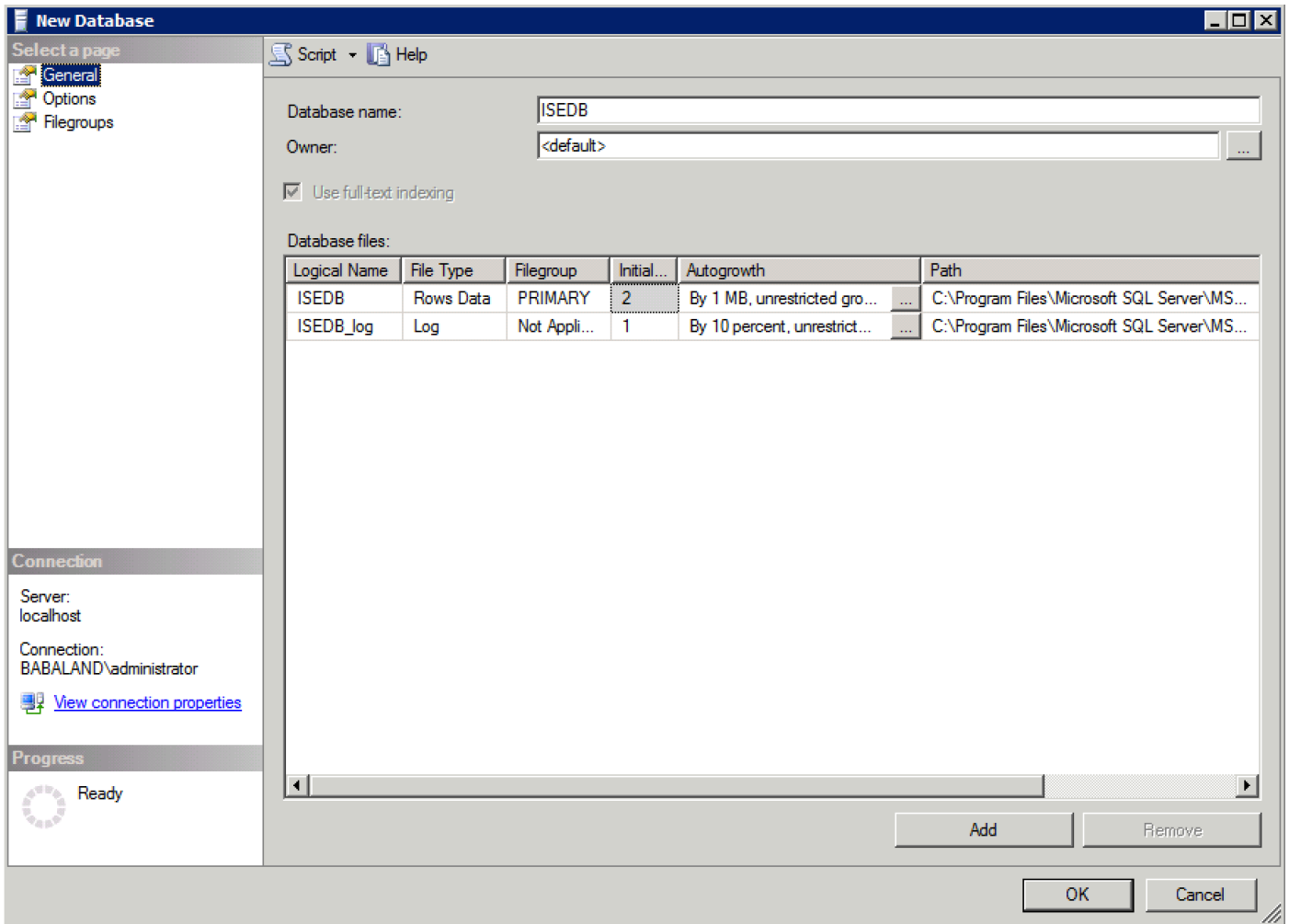
컨피그레이션 단계에는 데이터베이스에 액세스할 수 있는 권한이 있는 ISE에 대한 데이터베이스 및 사용자 하나가 생성됩니다.

**참고:** ISE는 Windows 계정이 아니라 SQL 인증만 지원합니다. 인증 모드를 변경해야 하는 경우 [서버 인증 모드 변경](#)을 참조하십시오.

1. SQL Server Management Studio(시작 메뉴 > Microsoft SQL Server 2008 R2)를 열고 데이터베이스를 만듭니다.



2. 다음 이미지에 표시된 대로 기본 옵션을 그대로 유지하거나 데이터베이스 설정을 조정합니다.



3. 다음 이미지에 표시된 대로 사용자를 생성하고 권한을 설정합니다.

# Microsoft SQL Server Management Studio

File Edit View Debug Tools Window Community

New Query [Icons]

## Object Explorer

Connect [Icons]

- [-] localhost (SQL Server 10.50.1600 - BABALAND\ad...)
  - [+] Databases
  - [-] Security
    - [-] Logins
      - [+] New Login...
      - [+] Filter
      - [+] Start PowerShell
      - [+] Reports
      - [+] Refresh
    - [+] Servers
    - [+] Credentials

**Login - New** [Minimize] [Maximize] [Close]

Select a page

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

Script Help

Login name:  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  Add

Mapped Credentials

Credential	Provider
------------	----------

Remove

Default database:

Default language:

OK Cancel

---

**Connection**

Server: localhost

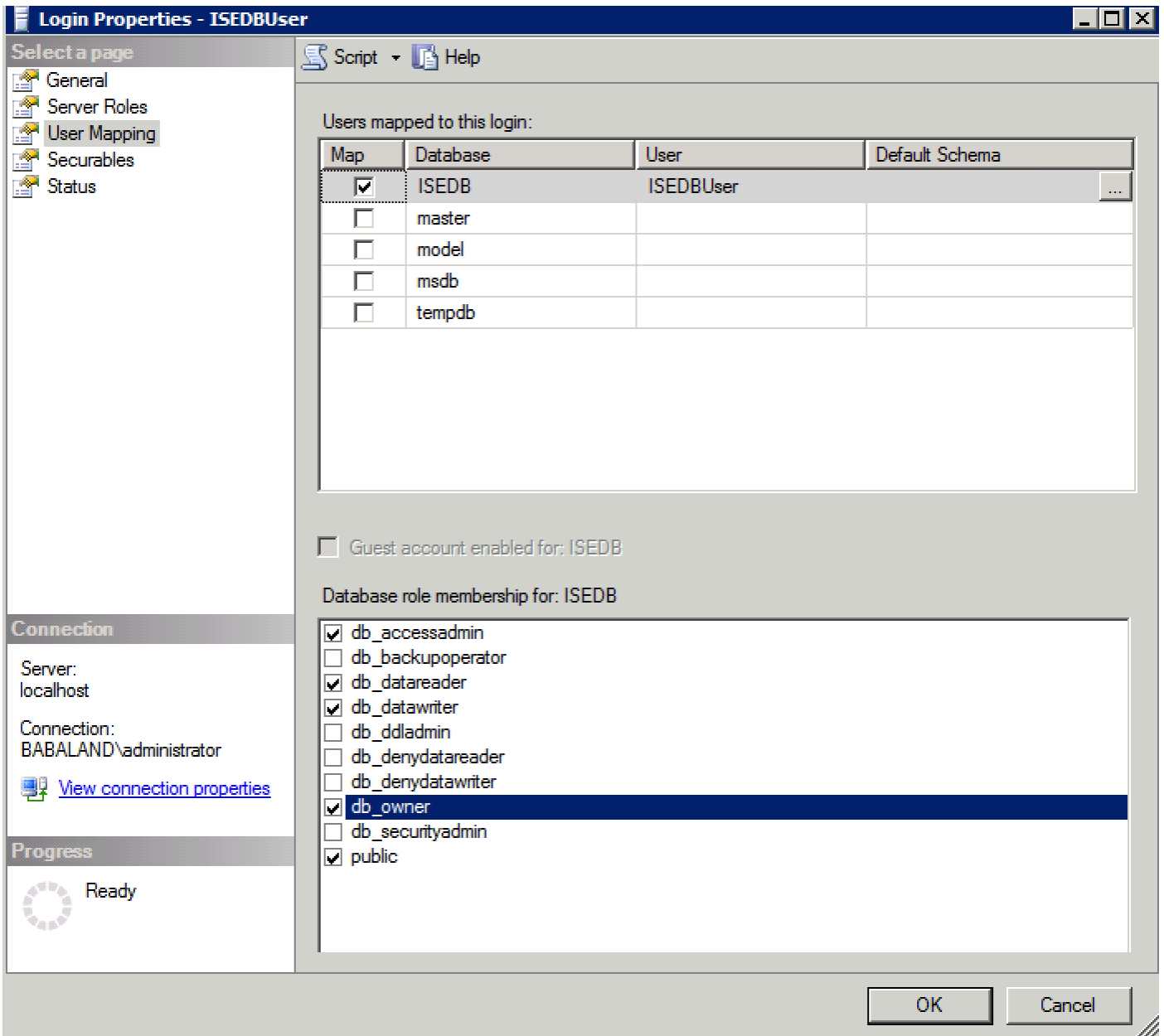
Connection: BABALAND\Administrator

[View connection properties](#)

---

**Progress**

Ready



## 2단계. ISE 기본 컨피그레이션

Administration(관리) > External Identity Source(외부 ID 소스) > ODBC에서 ODBC ID 소스를 생성하고 연결을 테스트합니다.

## ODBC Identity Source

General **Connection** Stored Procedures Attributes Groups

### ODBC DB connection details

\* Hostname/IP[:port]

\* Database name

Admin username  ⓘ

Admin password

\* Timeout

\* Retries

\* Database type

**Test connection** X

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

### 3단계. 사용자 인증 구성

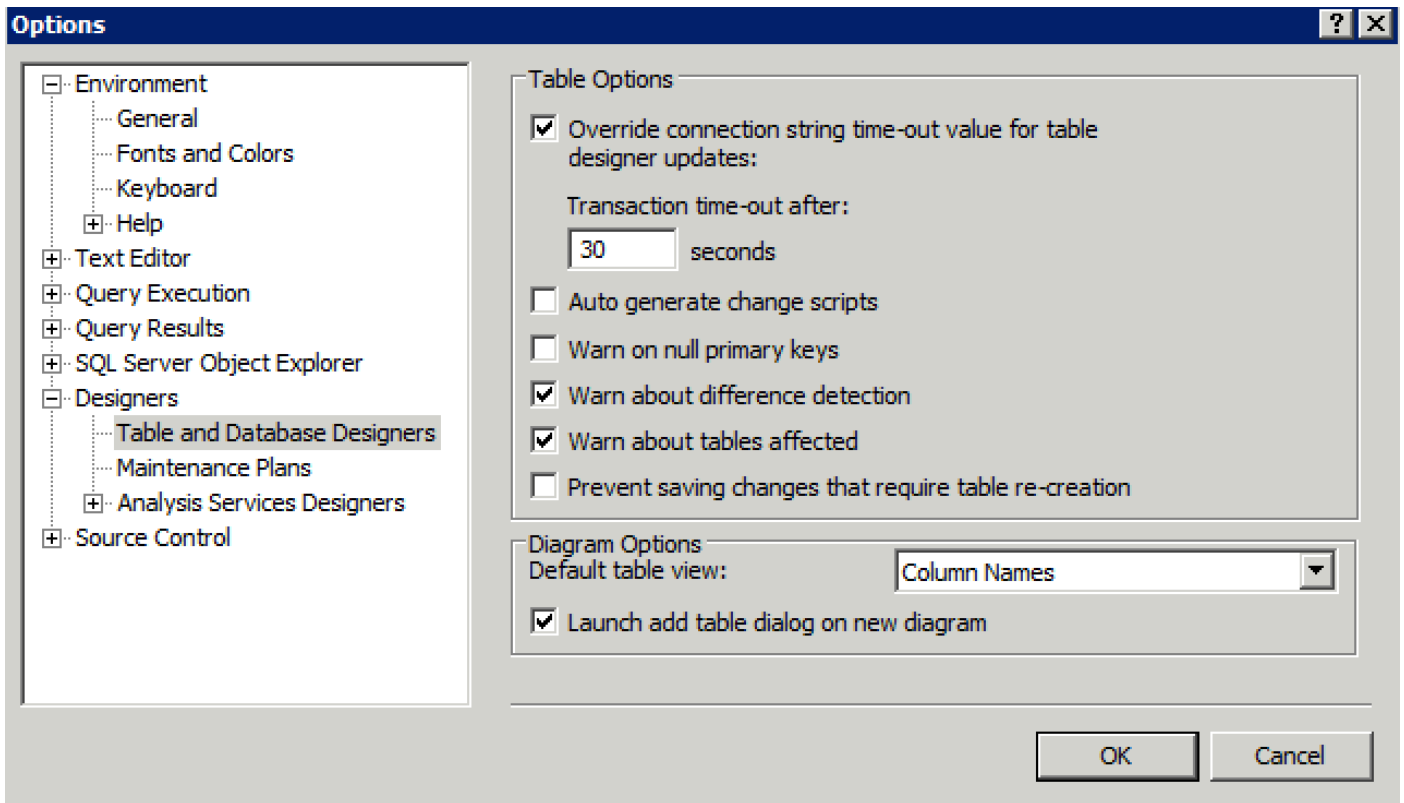
ODBC에 대한 ISE 인증에서는 저장 프로시저를 사용합니다. 인증에 대한 저장 프로시저는 다음 구문으로 결과 **집합**을 반환합니다.

가치	유형
결과	정수
그룹(ACS 4.2와의 호환성에만 해당)	정수 또는 varchar(255)
계정 정보	varchar(255)
오류 문자열	varchar(255)

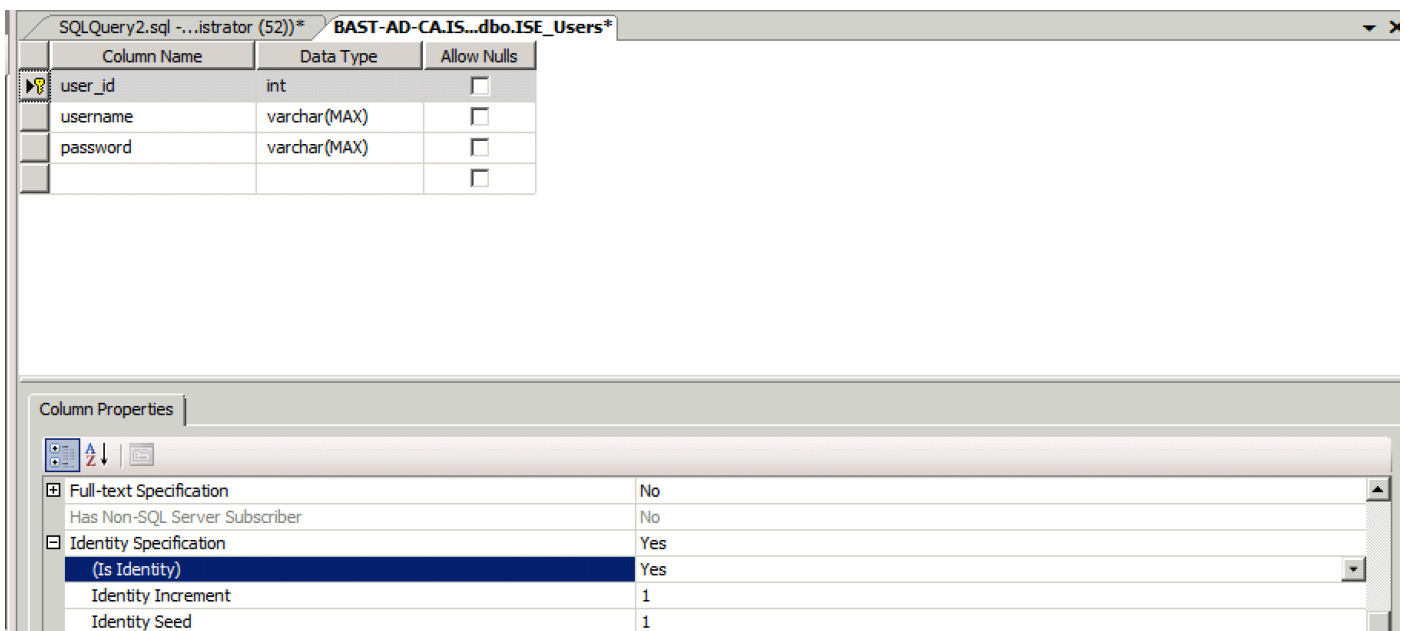
다른 절차는 [Cisco Identity Services Engine 2.1 관리 가이드](#)를 참조하십시오.

**팁:** 결과 집합 대신 명명된 매개 변수를 반환할 수 있습니다. 다른 유형의 출력일 뿐이며 기능이 동일합니다.

1. 옵션으로 이동하고 **테이블 재생성이 필요한 변경 내용 저장 금지 확인란**을 선택 취소합니다(선택 사항).



2. 테이블을 생성합니다. 기본 키에서 ID 설정을 설정해야 합니다. user\_id를 기본 키로 설정하려면 열 이름을 마우스 오른쪽 버튼으로 클릭합니다.



최종 SQL:

```
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. 이 쿼리를 실행하여 사용자 1명을 삽입합니다.

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

4. 일반 텍스트 비밀번호 인증 절차를 생성합니다(PAP, EAP-GTC 내부 방법, TACACS에 사용).

```
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. 일반 텍스트 비밀번호 가져오기(CHAP, MSCHAPv1/v2, EAP-MD5, LEAP, EAP-MSCHAPv2 내부 방법, TACACS에 사용) 절차를 생성합니다.

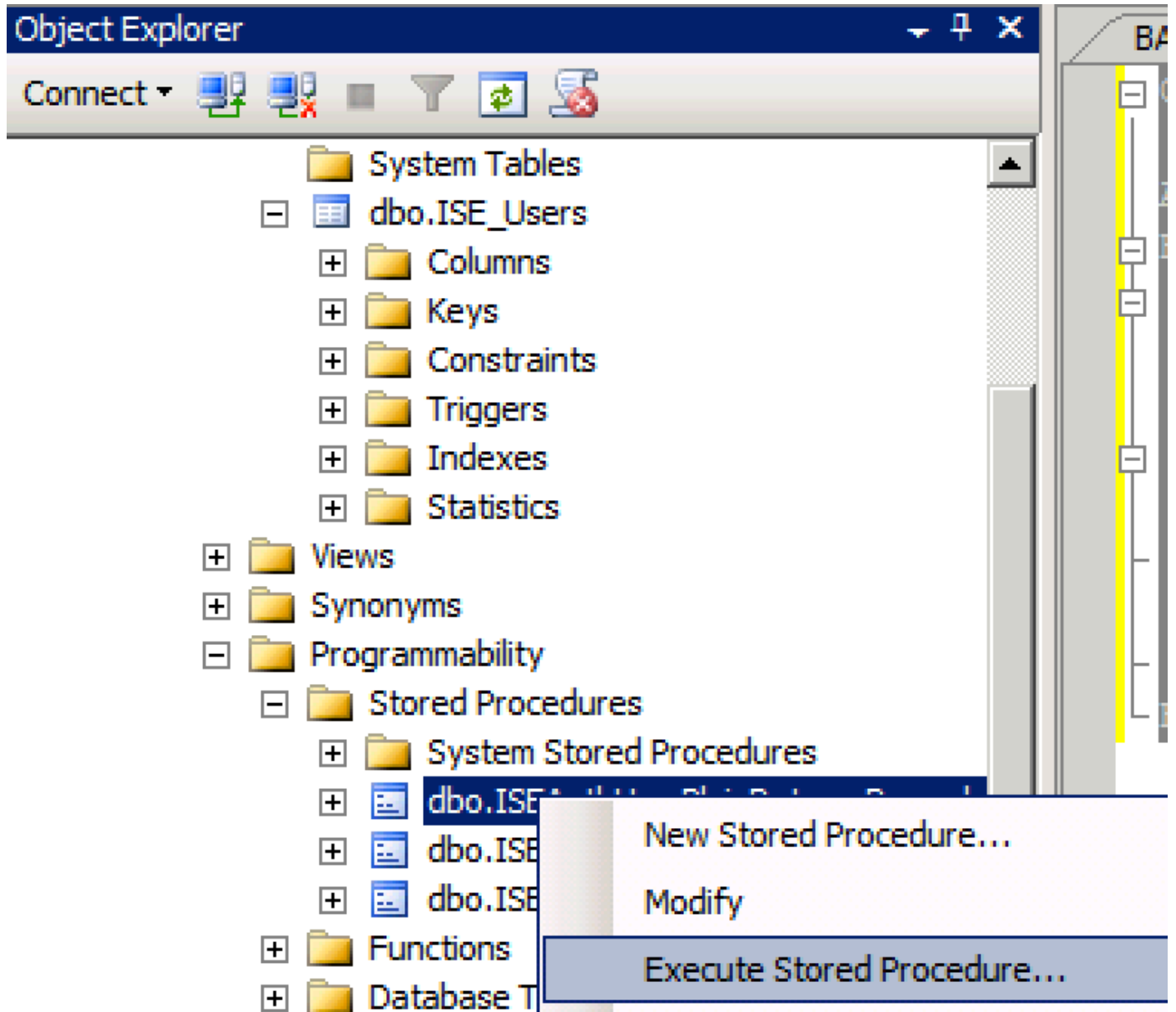
```
CREATE PROCEDURE [dbo].[ISEFetchPasswordReturnsRecordset]
@username varchar(255)
AS
BEGIN
IF EXISTS( SELECT username
FROM ISE_Users
WHERE username = @username)
SELECT 0,11,'This is a very good user, give him all access','No Error',password
FROM ISE_Users
WHERE username = @username
ELSE
SELECT 3,0,'odbc','ODBC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

6. 사용자 이름 또는 시스템이 있는지 확인하는 절차(MAB에 사용됨, PEAP, EAP-FAST 및 EAP-TTLS의 빠른 재연결)를 만듭니다.

```
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. 시험생성절차



Execute Procedure - [dbo].[ISEAuthUserPlainReturnsRecordset]

Select a page: General

Script Help

Parameter	Data Type	Output Parameter	Pass Null Value	Value
@username	varchar(255)	No	<input type="checkbox"/>	odbcuser1
@password	varchar(255)	No	<input type="checkbox"/>	odbcpass

Connection

Server: localhost

Connection: BABALAND\administrator

[View connection properties](#)

Progress

Ready

OK Cancel

SQLQuery5.sql -...inistrator (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

다른 절차를 동일한 방법으로 테스트합니다.

8. ISE에 대한 절차를 구성하고 저장합니다.

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

### ODBC Identity Source












General

Connection

**Stored Procedures**

Attributes

Groups

Stored procedure type	Returns recordset	
Plain text password authentication	ISEAuthUserPlainReturnsRecordset	 
Plain text password fetching	ISEFetchPasswordReturnsRecordset	 
Check username or machine exists	ISEUserLookupReturnsRecordset	 
<hr/>		
Fetch groups		 
Fetch attributes		 
Search for MAC Address in format	xx-xx-xx-xx-xx-xx	

9. ODBC를 사용하여 단순 인증 규칙을 만들고 테스트합니다.

#### 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"/>	test_aaa	: 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 odbuser1 odbcpass legacy
Attempting authentication test to server-group ISE236 using radius
User was successfully authenticated.
```

## Overview

Event	5200 Authentication succeeded
Username	odbcuser1
Endpoint Id	
Endpoint Profile	
Authentication Policy	Default >> test_aaa >> Default
Authorization Policy	Default >> Default
Authorization Result	PermitAccess

## Authentication Details

Source Timestamp	2016-06-08 11:04:07.004
Received Timestamp	2016-06-08 11:04:07.005
Policy Server	bise236
Event	5200 Authentication succeeded
Username	odbcuser1
Authentication Identity Store	ISE_ODBC

## 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 - Radius.NAS-Port-Type
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
```

## 4단계. 그룹 검색 구성

1. 사용자 그룹 및 다대다 매핑에 사용되는 다른 테이블을 생성합니다.

```
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. ODBCUSER1이 두 그룹에 속하도록 그룹 및 매핑을 추가합니다.

```

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. 그룹 검색 프로시저를 생성합니다.

```

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. 가져오기 그룹에 매핑합니다.

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

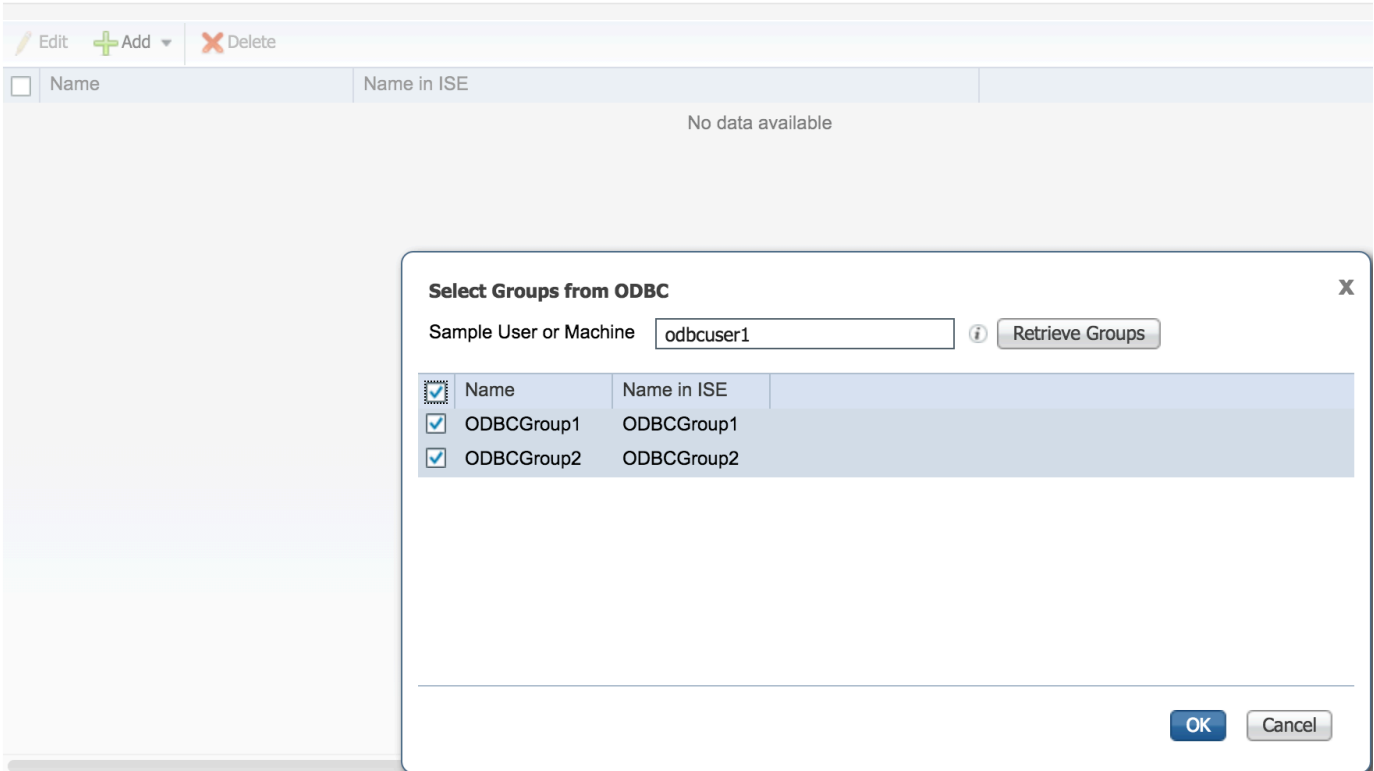
**ODBC Identity Source**

General	Connection	Stored Procedures	Attributes	Groups
Stored procedure type		Returns recordset		
Plain text password authentication	ISEAuthUserPlainReturnsRecordset			
Plain text password fetching	ISEFetchPasswordReturnsRecordset			
Check username or machine exists	ISEUserLookupReturnsRecordset			
Fetch groups		ISEGroupsRetrieval		
Fetch attributes		ISEAttrsRetrieval		
Search for MAC Address in format		xx-xx-xx-xx-xx-xx		

5. 그룹을 가져와 ODBC ID 소스에 추가합니다.

ODBC Identity Source

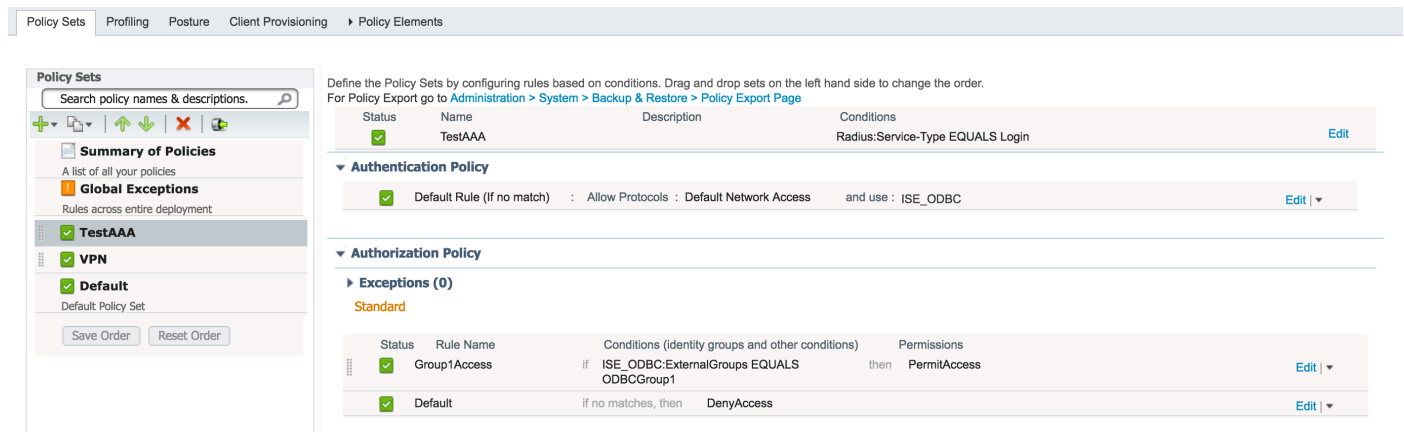
General Connection Stored Procedures Attributes **Groups**



6. 그룹에 속하지 않는 다른 사용자를 추가합니다.

```
insert into ISE_Users(username,password) values ('odbcuser2', 'odbcpass');
```

7. 특정 정책 세트를 생성하고 테스트합니다.



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

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

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

## 5단계. 특성 검색 구성

1. 이 예제를 단순화하기 위해 플랫폼 테이블이 속성에 사용됩니다.

```
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. 사용자 중 하나에 대한 속성을 생성합니다.

```
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. 저장 프로시저를 생성합니다.

```
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. 가져오기 속성에 매핑합니다.

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

**ODBC Identity Source**

General      Connection      **Stored Procedures**      Attributes      Groups

Stored procedure type: Returns recordset

Plain text password authentication: ISEAuthUserPlainReturnsRecordset

Plain text password fetching: ISEFetchPasswordReturnsRecordset

Check username or machine exists: ISEUserLookupReturnsRecordset

---

Fetch groups: ISEGroupsRetrieval

Fetch attributes: ISEAttrsRetrieval

Search for MAC Address in format: xx-xx-xx-xx-xx-xx

5. 속성을 가져옵니다.

**Select Attributes from ODBC**

X

Sample User or Machine:

<input type="checkbox"/>	Name	Type	Default Value	Name in ISE
<input type="checkbox"/>	AwsomenessLevel	STRING	100	AwsomenessLevel
<input type="checkbox"/>	UserType	STRING	admin	UserType

## 6. ISE 규칙을 조정합니다.

Status	Rule Name	Conditions (identify groups and other conditions)	Permissions	
✓	Group1Access	if ISE_ODBC:ExternalGroups EQUALS ODBCGroup1	then PermitAccess	<a href="#">Edit</a>   ▾
✓	AwesomeUser	if ISE_ODBC:AwsomenessLevel EQUALS 100	then PermitAccess	<a href="#">Edit</a>   ▾
✓	Default	if no matches, then	DenyAccess	<a href="#">Edit</a>   ▾

Refresh Reset Repeat Counts Export To Filter

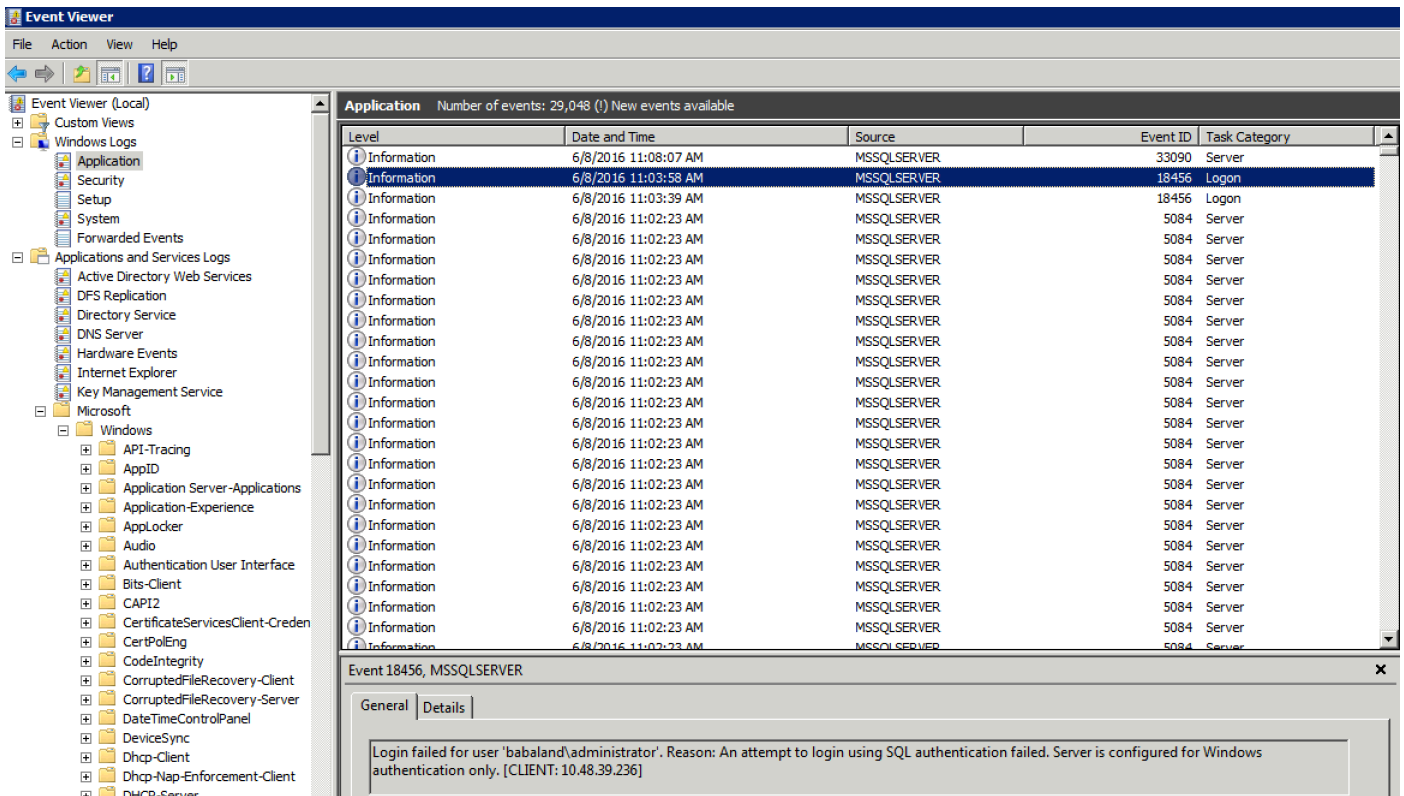
Time	Status	Details	Repeat ...	Identity	Endpoint ID	Endpoint Pr...	Authenticat...	Authorization Policy	Authorizatio...
Jun 08, 2016 12:21:45.596 PM	✓			odbcuser2		Endpoint Prof	Authenticator	Authorization Policy	Authorization

## 문제 해결

연결에 실패하면 windows 이벤트 로그를 확인하십시오. ISE에서 **연결 시도 중 show logging application prrt-management.log tail** 명령을 사용합니다.

잘못된 인증 모드의 예:

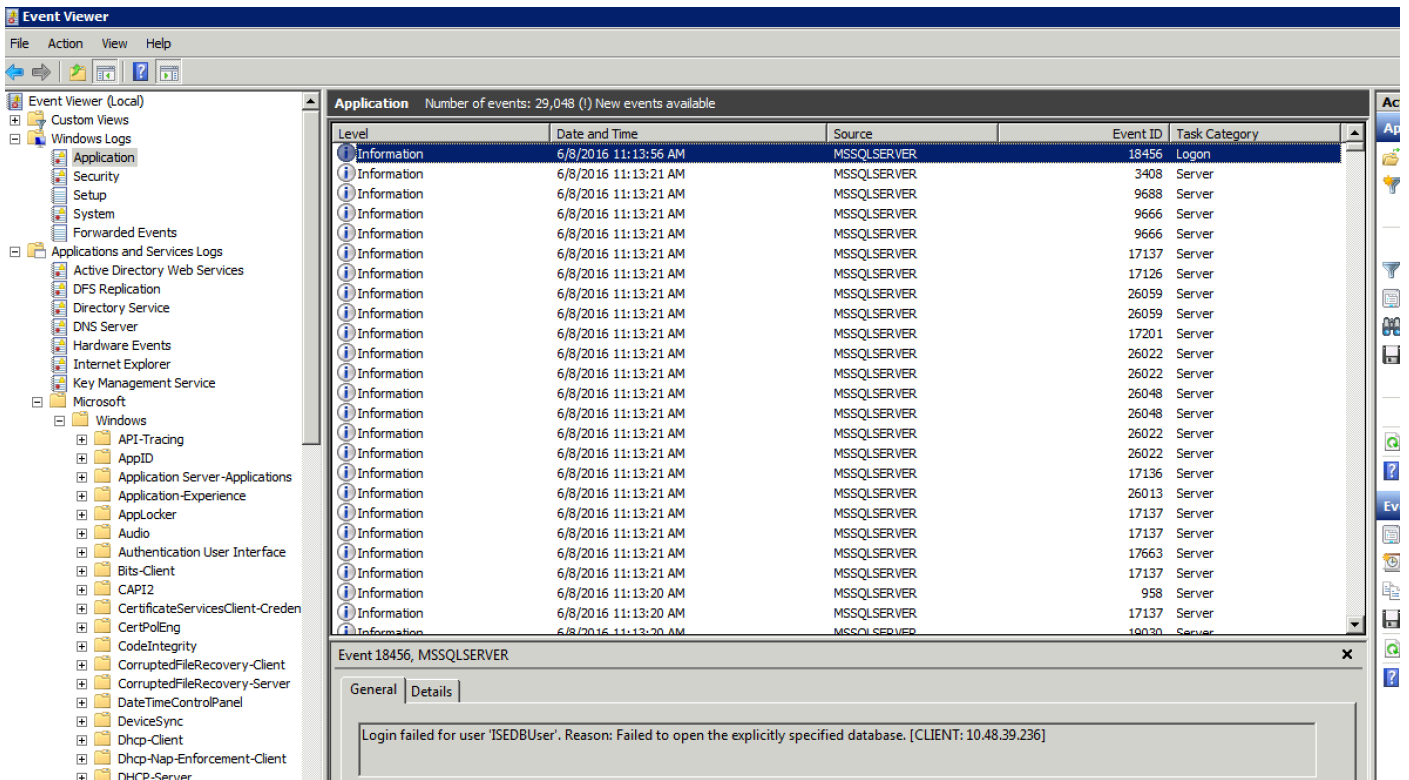
```
bise236/admin# sh logg app prrt-management.log tail
2016-06-08 09:03:59,822 WARN [admin-http-pool177] []
cisco.cpm.odbcidstore.impl.MSSQLServerDbAccess -:bastien::- Connection to ODBC DB failed.
Exception: com.microsoft.sqlserver.jdbc.S
QLServerException: Login failed for user 'babaland\administrator'. 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: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$000(SQLServerConnection.java:41)
at
com.microsoft.sqlserver.jdbc.SQLServerConnection$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)
```



데이터베이스를 열 수 있는 권한이 없는 사용자의 예:

```

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)
  
```



DB 작업 문제를 해결하려면 로깅 구성 요소 **odbc-id-store**를 **Administration(관리) > System(시스템) > Logging(로깅) > Debug Log Configuration(디버그 로그 컨피그레이션)**에서 **DEBUG** 수준으로 활성화합니다.

로그는 **prrt-management.log** 파일에 저장됩니다.

odbuser2의 예:

```

2016-06-08 12:26:56,009 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- ODBC
ID Store Operation: Authenticate Plain Text Password. Username=odbcuser2,
SessionID=0a3027ecLA_rJLKsS5QAzurVluGWzdYe67rIgcG3MMQcpE8yKnw
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=odbcuser2, 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.odbcidstore.impl.OdbcConnection -:::-
Process stored procedure results
2016-06-08 12:26:56,017 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Obtain stored procedure results from recordset
2016-06-08 12:26:56,017 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Received result recordset, number of columns=4
2016-06-08 12:26:56,017 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Results successfully parsed from recordset
2016-06-08 12:26:56,018 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -
:::- OdbcConnectionPool - release connection
2016-06-08 12:26:56,018 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -
:::- OdbcConnectionPool - connections in use: 0
2016-06-08 12:26:56,018 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- Call
to ODBC DB succeeded
2016-06-08 12:26:56,018 DEBUG [Thread-4051][] cisco.cpm.odbcidstore.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.odbcidstore.impl.CustomerLog -:::- Write
customer log message: 24853
2016-06-08 12:26:56,026 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- ODBC ID
Store Operation: Get all user groups. Username=odbcuser2,
SessionID=0a3027ecLA_rJLKsS5QAzurVluGWzdYe67rIgcG3MMQcpE8yKnw
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- ODBC ID
Store Operation: Fetch user groups. Username=odbcuser2,
SessionID=0a3027ecLA_rJLKsS5QAzurVluGWzdYe67rIgcG3MMQcpE8yKnw
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.CustomerLog -:::- Write
customer log message: 24869
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -:::-
OdbcConnectionPool - get connection
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -:::-
OdbcConnectionPool - use existing connection
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -:::-
OdbcConnectionPool - connections in use: 1
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Fetch user groups
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Prepare stored procedure call, procname=ISEGroupsRetrieval
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Text: {call ISEGroupsRetrieval(?,?) }
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Setup stored procedure input parameters, username=odbcuser2
2016-06-08 12:26:56,029 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Execute stored procedure call
2016-06-08 12:26:56,031 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Process stored procedure results
2016-06-08 12:26:56,032 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Received empty result set, no groups/attributes data can be obtained
2016-06-08 12:26:56,032 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.OdbcConnection -:::-
Result code indicates success
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -:::-
OdbcConnectionPool - release connection
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.OdbcConnectionPool -:::-
OdbcConnectionPool - connections in use: 0
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- Call to
ODBC DB succeeded
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.CustomerLog -:::- Write
customer log message: 24870
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbcidstore.impl.OdbcIdStore -:::- ODBC ID
Store Operation: Get all user groups. Got groups...
2016-06-08 12:26:56,033 DEBUG [Thread-84][] cisco.cpm.odbcidstore.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.odbcidstore.impl.OdbcIdStore -:::- ODBC ID
Store Operation: Fetch user attributes. Username=odbcuser2,
```

SessionID=0a3027ecLA\_rJLKsS5QAzuRvluGWzdYe67rIgcG3MMQcpe8yKnw

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