

Configurare ISE 2.1 con MS SQL utilizzando ODBC

Sommario

[Introduzione](#)

[Prerequisiti](#)

[Requisiti](#)

[Componenti usati](#)

[Configurazione](#)

[Passaggio 1. Configurazione di base di MS SQL](#)

[Passaggio 2. Configurazione di base ISE](#)

[Passaggio 3. Configurazione dell'autenticazione utente](#)

[Passaggio 4. Configurare il recupero del gruppo](#)

[Passaggio 5. Configurazione del recupero degli attributi](#)

[Risoluzione dei problemi](#)

Introduzione

In questo documento viene descritto come configurare Identity Services Engine (ISE) con Microsoft Standard Query Language (SQL) Server per l'autenticazione ISE utilizzando Open Database Connectivity (ODBC)

Nota: L'autenticazione Open Database Connectivity (ODBC) richiede che ISE sia in grado di recuperare una password utente in formato testo normale. La password può essere crittografata nel database, ma deve essere decrittografata dalla **stored procedure**.

Prerequisiti

Requisiti

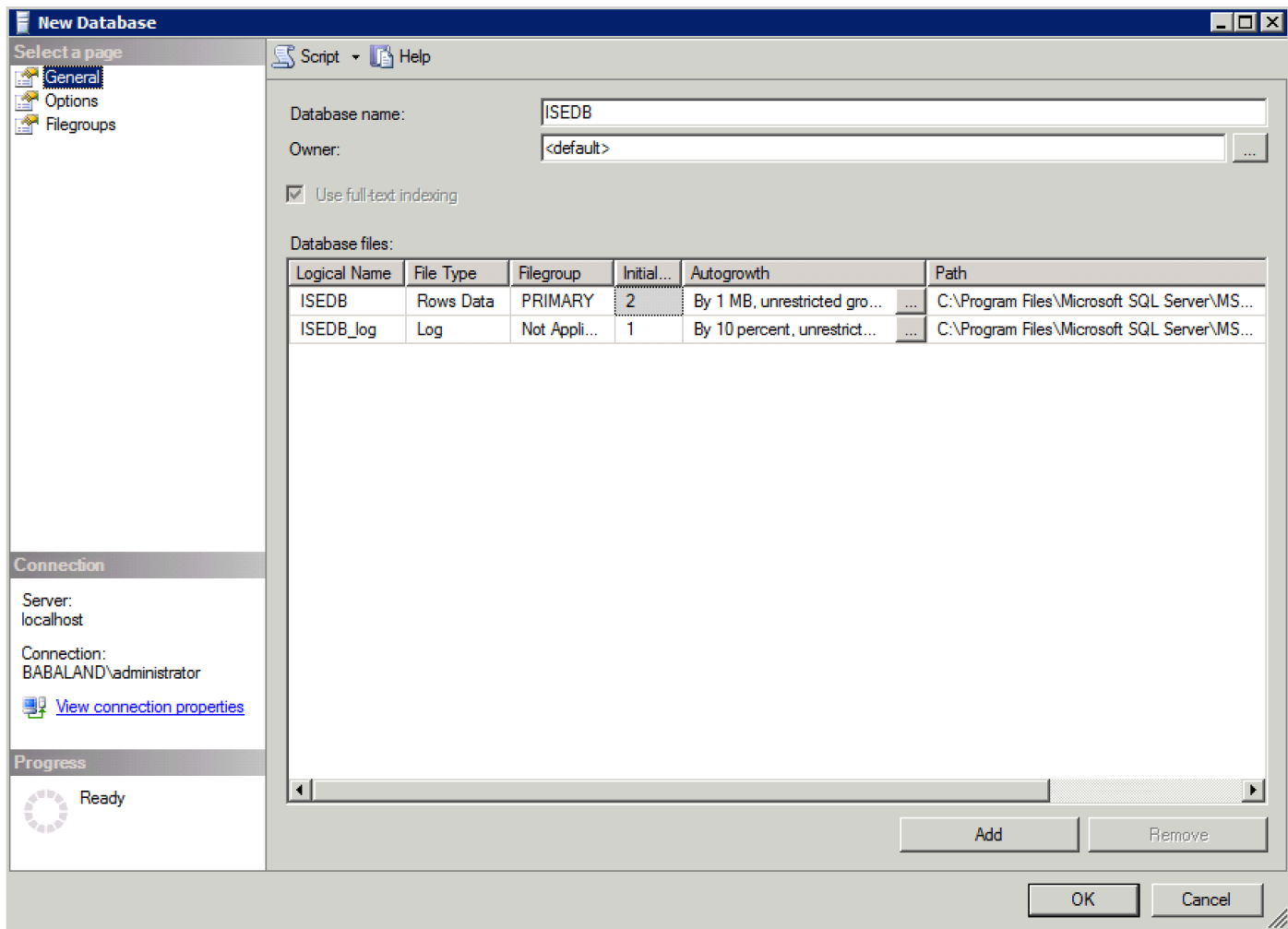
Cisco raccomanda la conoscenza dei seguenti argomenti:

- Concetti su database e ODBC
- Microsoft SQL Server

Componenti usati

Le informazioni fornite in questo documento si basano sulle seguenti versioni software e hardware:

- Identity Services Engine 2.1
- MSSQL Server 2008 R2



3. Creare un utente e impostare le autorizzazioni come illustrato nelle immagini seguenti:

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

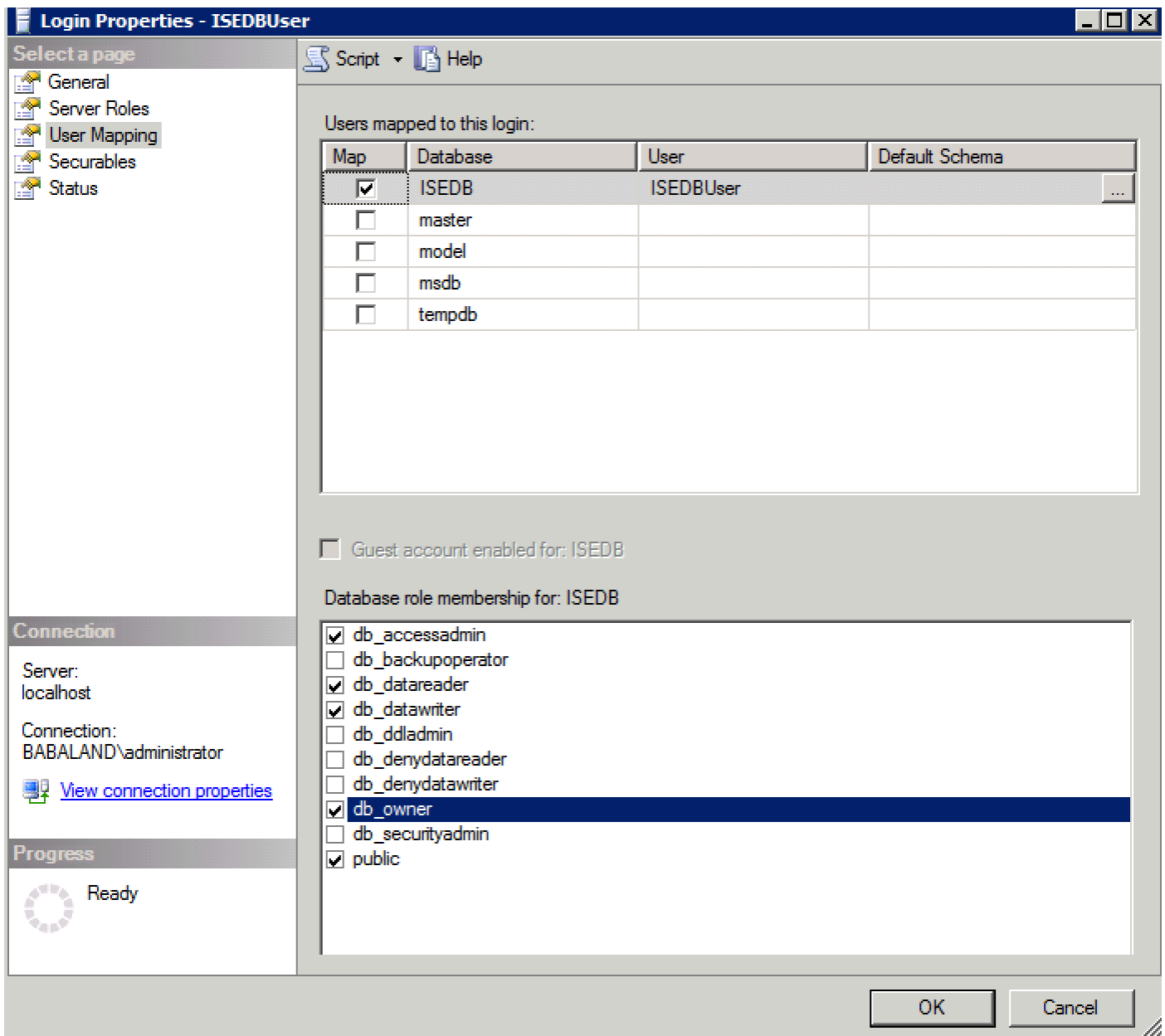
Server: localhost

Connection: BABALAND\Administrator

[View connection properties](#)

Progress

Ready



Passaggio 2. Configurazione di base ISE

Creare un'origine identità ODBC in Amministrazione > Origine identità esterna > ODBC e verificare la connessione:

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

Passaggio 3. Configurazione dell'autenticazione utente

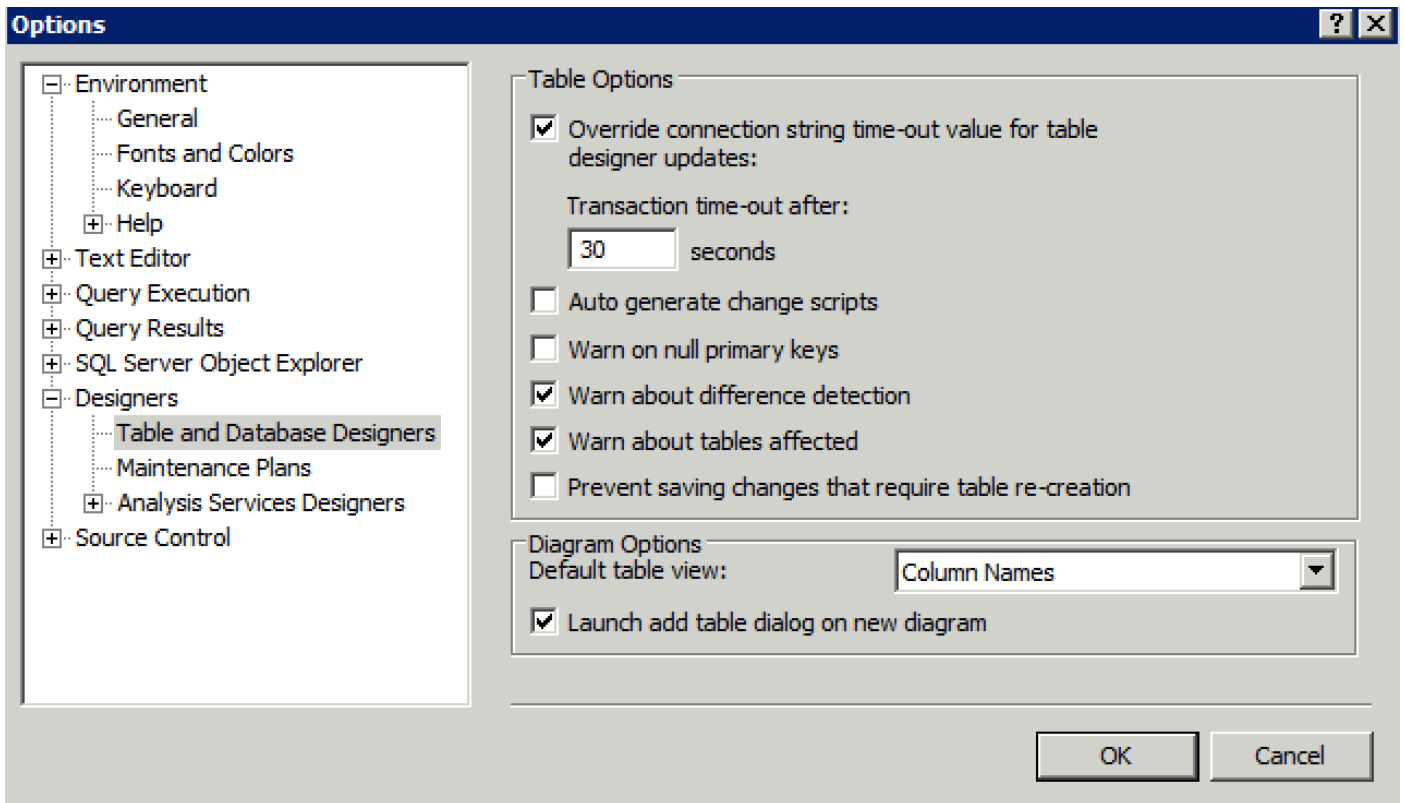
L'autenticazione ISE per ODBC utilizza stored procedure. La stored procedure per l'autenticazione restituisce il **set di risultati** con la seguente sintassi:

Valore	Tipo
Risultato	Numero intero
Group (solo per compatibilità con ACS 4.2)	Numero intero o varchar(255)
Informazioni account	varchar(255)
Stringa di errore	varchar(255)

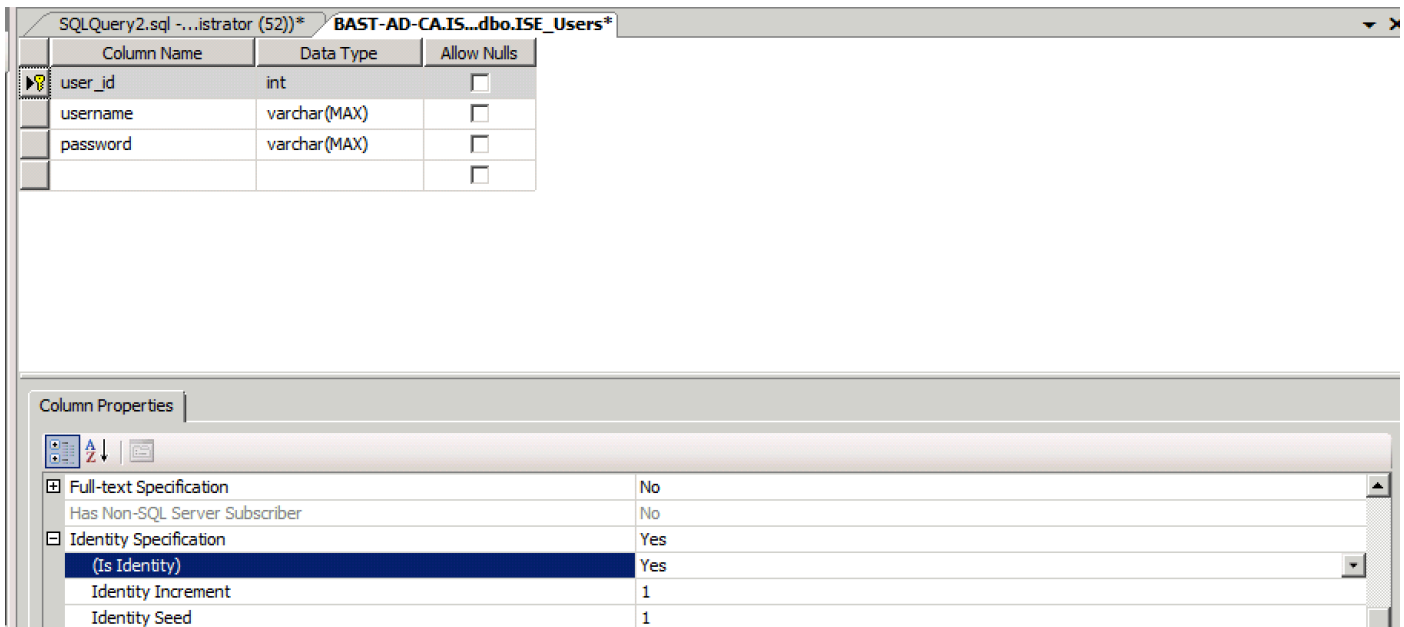
Per altre procedure, fare riferimento alla [Guida all'amministrazione di Cisco Identity Services Engine 2.1](#)

Suggerimento: È possibile restituire parametri denominati invece di resultset. È un tipo di output diverso, la funzionalità è la stessa.

1. Passare alle opzioni e deselezionare la casella di controllo **Impedisci salvataggio delle modifiche che richiedono la ricreazione della tabella** (facoltativo):



2. Creare la tabella. Verificare di aver impostato le impostazioni di identità nella **chiave primaria**. Per impostare **user_id** come **chiave primaria**, fare clic con il pulsante destro del mouse sul **nome** della **colonna**:



SQL finale:

```
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. Eseguire questa query per inserire un utente:

```

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

```

4. Creare una procedura di autenticazione con password in testo normale (utilizzata per PAP, metodo interno 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. Creare una procedura per il recupero di password in testo normale (utilizzata per i metodi interni CHAP, MSCHAPv1/v2, EAP-MD5, LEAP, 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. Creare una procedura per verificare se il nome utente o il computer esiste (utilizzata per MAB, riconnessione rapida di PEAP, EAP-FAST ed EAP-TTLS):

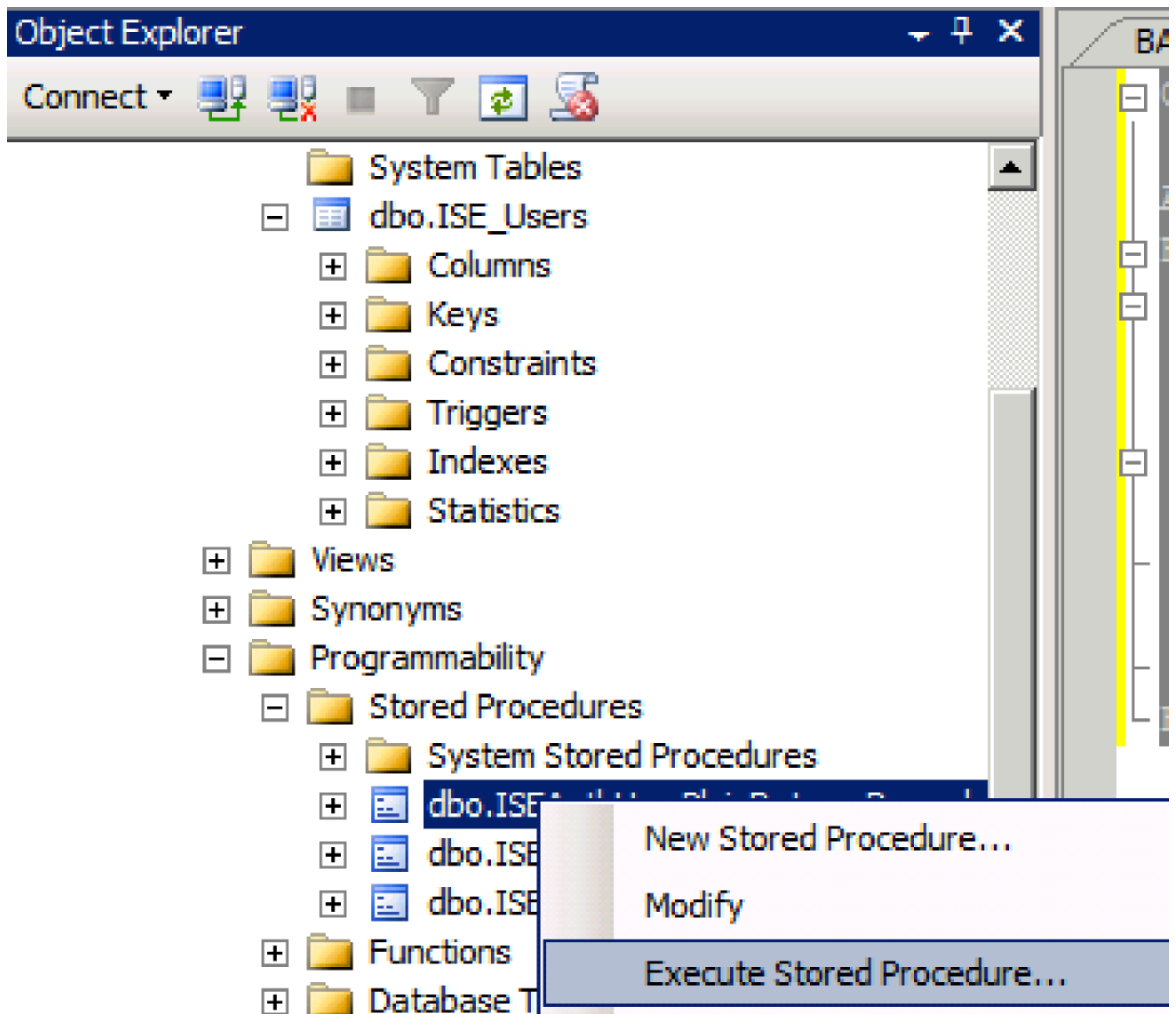
```

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. Procedure create per il test:



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

Provare altre procedure nello stesso modo.

8. Configurare le procedure su ISE e salvare:

[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		
Fetch attributes		
Search for MAC Address in format	xx-xx-xx-xx-xx-xx	

9. Creare una regola di autenticazione semplice utilizzando ODBC e verificarla:

Authentication Policy

<input checked="" type="checkbox"/>	MAB	: If Wired_MAB OR Wireless_MAB	Allow Protocols : Default Network Access	and	Edit
<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	Edit
<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	Edit
<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

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
```

Passaggio 4. Configurare il recupero del gruppo

1. Creare tabelle contenenti gruppi di utenti e un'altra tabella utilizzata per il mapping multi-a-molti:

```
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. Aggiungere gruppi e mapping in modo che ODBCUSER1 appartenga a entrambi i gruppi:

```

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. Creare la procedura di recupero dei gruppi:

```

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. Mappare ai gruppi Fetch:

[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. Recuperare i gruppi e aggiungerli all'origine identità ODBC:

ODBC Identity Source

- General Connection Stored Procedures Attributes **Groups**

Edit + Add X Delete

Name	Name in ISE
No data available	

Select Groups from ODBC X

Sample User or Machine: Retrieve Groups

Name	Name in ISE
<input checked="" type="checkbox"/> ODBCGroup1	ODBCGroup1
<input checked="" type="checkbox"/> ODBCGroup2	ODBCGroup2

OK Cancel

6. Aggiungere un altro utente che non appartiene ad alcun gruppo:

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

7. Creare un set di criteri e un test specifici:

Policy Sets Profiling Posture Client Provisioning Policy Elements

Policy Sets

Search policy names & descriptions.

Summary of Policies

Global Exceptions

TestAAA

VPN

Default

Save Order Reset Order

Define the Policy Sets by configuring rules based on conditions. Drag and drop sets on the left hand side to change the order.

For Policy Export go to [Administration > System > Backup & Restore > Policy Export Page](#)

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

Authentication Policy

<input checked="" type="checkbox"/>	Default Rule (if no match)	Allow Protocols : Default Network Access	and use : ISE_ODBC	Edit
-------------------------------------	----------------------------	--	--------------------	------

Authorization Policy

Exceptions (0)

Standard

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

```
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.
```

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

Passaggio 5. Configurazione del recupero degli attributi

1. Per semplificare questo esempio, viene utilizzata una tabella semplice per gli attributi:

```
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. Creare un attributo per uno degli utenti:

```
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. Creare una **stored procedure**:

```
CREATE PROCEDURE [dbo].[ISEAttrrsRetrieval]
@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. Mappare agli attributi Fetch:

[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. Recuperare gli attributi:

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. Regolare le regole ISE:

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

Refresh Reset Repeat Counts Export To Filter

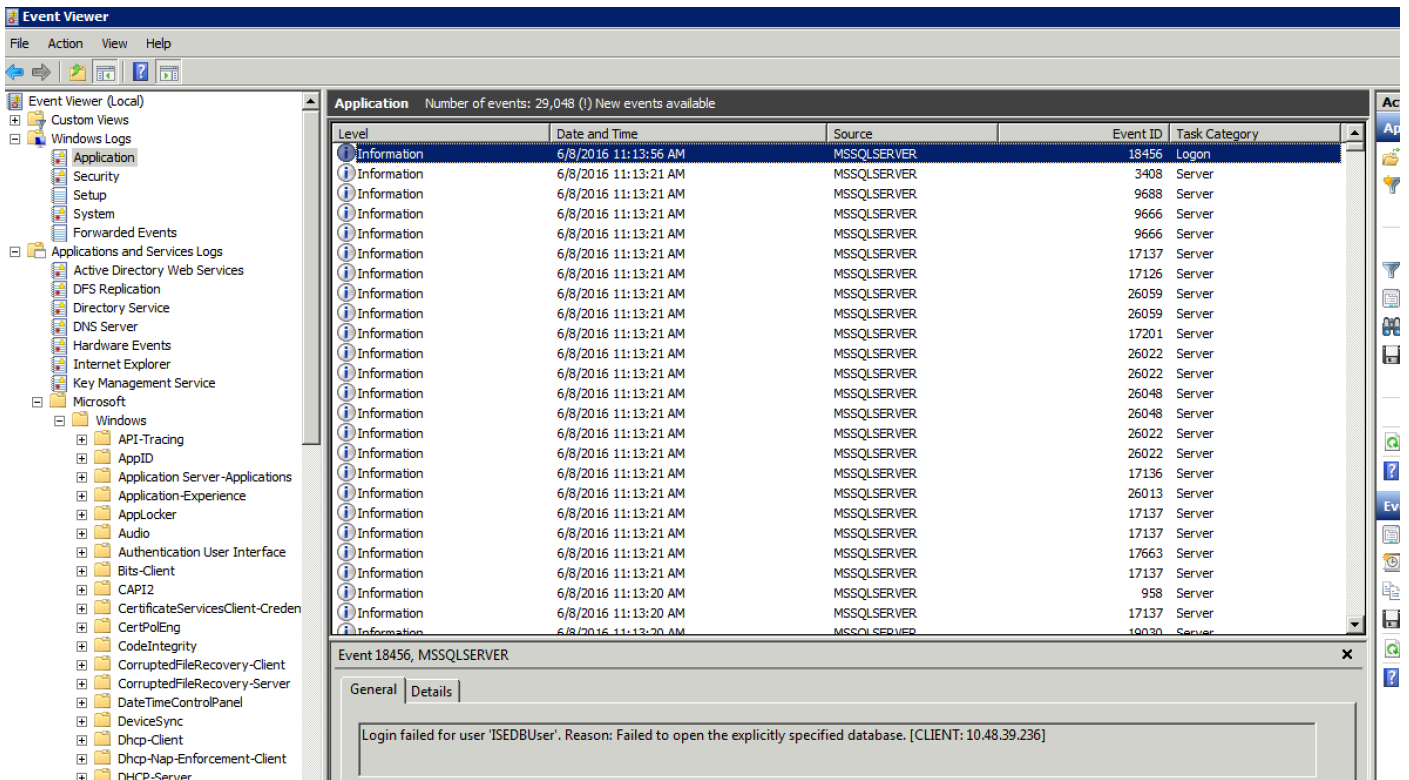
Time	Status	Details	Repeat ...	Identity	Endpoint ID	Endpoint Pr...	Authenticat...	Authorization Policy	Authorizatio...
Jun 08, 2016 12:21:45.596 PM	✓			Identity	Endpoint ID	Endpoint Prof	Authenticator	Authorization Policy	Authorization
				odbcuser2			TestAAA >> ...	TestAAA >> AwesomeUser	PermitAccess

Risoluzione dei problemi

Se la connessione non riesce, controllare il registro eventi di Windows. Su ISE usare il comando `show logging application prrt-management.log tail` durante il tentativo di connessione.

Esempio di modalità di autenticazione non valida:

```
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)
```

Per risolvere i problemi relativi alle operazioni del database, abilitare i componenti di log **odbc-id-store** a livello DEBUG in **Amministrazione > Sistema > Log > Configurazione log di debug**.

I registri vengono inseriti nel file **port-management.log**.

Esempio di **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=odbuser2,
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=odbuser2, 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
```