Konfigurieren von ISE 2.1 mit MS SQL mithilfe von ODBC

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Einführung

In diesem Dokument wird beschrieben, wie Identity Services Engine (ISE) mit Microsoft Standard Query Language (SQL) Server für die ISE-Authentifizierung mithilfe von Open Database Connectivity (ODBC) konfiguriert wird.

Hinweis: Für die Open Database Connectivity (ODBC)-Authentifizierung muss die ISE ein Nur-Text-Benutzerkennwort abrufen können. Das Kennwort kann in der Datenbank verschlüsselt werden, muss jedoch von der **gespeicherten Prozedur** entschlüsselt werden.

Voraussetzungen

Anforderungen

Cisco empfiehlt, über Kenntnisse in folgenden Bereichen zu verfügen:

- Datenbank- und ODBC-Konzepte
- Microsoft SQL Server

Verwendete Komponenten

Die Informationen in diesem Dokument basieren auf den folgenden Software- und Hardwareversionen:

- Identity Services Engine 2.1
- MSSQL Server 2008 R2

Konfigurieren

Schritt 1: MS SQL-Basiskonfiguration

Zu den Konfigurationsschritten gehören das Erstellen einer Datenbank und eines Benutzers für die ISE mit Zugriffsberechtigungen auf diese Datenbank.

Hinweis: Die ISE unterstützt nur die SQL-Authentifizierung, nicht das Windows-Konto. Wenn Sie den Authentifizierungsmodus ändern müssen, finden Sie weitere Informationen unter <u>Change Server Authentication Mode (Serverauthentifizierungsmodus ändern).</u>

1. Öffnen Sie SQL Server Management Studio (**Startmenü > Microsoft SQL Server 2008 R2**), und erstellen Sie eine Datenbank:



2. Lassen Sie die Standardoptionen unverändert, oder passen Sie die Datenbankeinstellungen wie in diesem Bild gezeigt an:

🔄 Script 👻 📑 I	Help				
Database name:		ISEDB			
Owner:		<default></default>			
_		· · ·			
Use full-text i	ndexing				
Database files:					
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•					► I
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					OK Cancel
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3. Erstellen Sie einen Benutzer, und legen Sie die Berechtigungen wie in den folgenden Bildern gezeigt fest:



🚪 Login - New			
Select a page	<u>S</u> Script 👻 📑 Help		
General			Conroh
User Mapping	Login name.	ISEDBOSEF	Search
Securables	O Windows authentication		
	SQL Server authentication		
	Password:	••••	
	Confirm password:	•••••	
	Specify old password		
	Old password:		
	Enforce password policy	/	
	Enforce password expira	ation	
	🗖 User must change pass	word at next login	
	O Mapped to certificate		
	O Mapped to asymmetric key		
	Map to Credential		Add
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Connection: BABALAND\administrator			
View connection properties			
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		ОК	Cancel

Login Properties - ISEDBUser				
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🚰 General	<u> </u>			
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		model		
		msdb		
		temodh		
		tompdb		
	Guest:	account enabled for: ISEDB		
	Database	role membership for: ISEDB		
Connection	db_ac	cessadmin		
Server:	db_ba	ckupoperator		
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	db_sec	curityadmin		
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	L			
				OK Cancel

Schritt 2: ISE - Basiskonfiguration

Erstellen einer ODBC-Identitätsquelle unter Administration > External Identity Source > ODBC und Testverbindung:

ODBC List > ISE_ODBC

General	e Connection	Stored Procedures	Attributes	Groups
ODBC DB connection de	etails			
* Hostname/IP[:port]	bast-ad-ca.cisco.com	n		
* Database name	ISEDB			
Admin username	ISEDBUser	(i)		
Admin password	•••••			
* Timeout	5	Test connect	ion	×
* Retries	1	Connection	succeeded	^
* Database type	Microsoft SQL Serv	Stored Proce	dures	
	Test Connection	Plain text pa	ssword authentication -	Not Configured
		🌒 🜗 Plain text pa	ssword fetching - Not C	Configured
		Check userr	name or machine exists	- Not Configured
		🜗 Fetch group	s - Not Configured	
		🌗 🕂 Fetch attribu	ites - Not Configured	
				Close

Schritt 3: Benutzerauthentifizierung konfigurieren

Die ISE-Authentifizierung an ODBC verwendet gespeicherte Prozeduren. Die gespeicherte Prozedur für die Authentifizierung gibt **Ergebnismenge** mit dieser Syntax zurück:

Wert	Тур
Ergebnis	Ganzzahl
Gruppe (nur zur Kompatibilität mit ACS 4.2)	Integer oder varchar(255)
Kontoinformationen	varchar(255)
Fehlerstring	varchar(255)

Weitere Verfahren finden Sie im Cisco Identity Services Engine 2.1-Administrationsleitfaden.

Tipp: Sie können benannte Parameter anstelle von Resultset zurückgeben. Es ist nur ein anderer Ausgabetyp, die Funktionalität ist die gleiche.

1. Navigieren Sie zu Optionen, und deaktivieren Sie das Kontrollkästchen **Speichern von** Änderungen, die eine Neuerstellung der Tabelle erfordern, verhindern (optional):

Options	? ×
 Environment General Fonts and Colors Keyboard Help Text Editor Query Execution Query Results SQL Server Object Explorer Designers Table and Database Designers Maintenance Plans Analysis Services Designers Source Control 	Table Options Image: Override connection string time-out value for table designer updates: Transaction time-out after: 30 seconds Auto generate change scripts Warn on null primary keys Warn about difference detection Warn about tables affected Prevent saving changes that require table re-creation Diagram Options Default table view: Column Names Image: Launch add table dialog on new diagram
	OK Cancel

2. Erstellen Sie die Tabelle. Stellen Sie sicher, dass Sie die Identitätseinstellungen für den **Primärschlüssel** festlegen. Um **user_id** als **Primärschlüssel** festzulegen, klicken Sie mit der rechten Maustaste auf den **Spaltennamen:**

	SQLQuery2.sqlistrator	(52))* BAST-AD	-CA.ISdbo.IS	E_Users*		
	Column Name	Data Type	Allow Nulls			
▶8	user_id	int				
	username	varchar(MAX)				
	password	varchar(MAX)				
	olumn Properties					
	₽ 2↓ ©					
Í					No	
	Has Non-SQL Server Sub	scriber			No	
	Identity Specification				Yes	
	(Is Identity)				Yes	•
	Identity Increment				1	
	Identity Seed				1	

Letzte SQL-Version:

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. Führen Sie diese Abfrage aus, um einen Benutzer einzufügen:
```

```
insert into ISE_Users(username,password) values('odbcuser1','odbcpass');
4. Erstellen Sie eine Prozedur für die unverschlüsselte Kennwortauthentifizierung (für PAP, EAP-GTC innere Methode, 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. Erstellen Sie eine Prozedur zum Abrufen von unverschlüsselten Kennwörtern (für CHAP, MSCHAPv1/v2, EAP-MD5, LEAP, EAP-MSCHAPv2 innere Methode, 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. Erstellen Sie eine Prozedur zur Prüfung des Benutzernamens oder des Rechners (für MAB verwendet, schnelle Wiederverbindung von PEAP, EAP-FAST und EAP-TTLS):

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. Testerstellte Prozeduren:



Series a page Series Series Series Series Series Series Series Series Series Series Series Series Series Series Series Series Series Series Series Series Series Series Ser	🐙 Execute Procedure - [dbo].[ISEAuthUserPlainR	eturnsRecordset]		
Personal Pe	Select a page	🔄 Script 👻 📑 Hel	p			
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		This is a very good us	sor, give him all access			

Testen Sie andere Verfahren auf die gleiche Weise.

8. Konfigurieren von Prozeduren auf der ISE und Speichern:

O	DBC List > ISE_OD	BC			
0	DBC Identity S	ource			
	General	Connection	Stored Procedures	Attributes	Groups
	Stor	red procedure type	Returns recordset	-	
	Plain text passw	vord authentication	ISEAuthUserPlainReturnsReco	ordset	\oplus
	Plain text	password fetching	ISEFetchPasswordReturnsRec	ordset	\oplus
	Check username	or machine exists	ISEUserLookupReturnsRecord	lset	\oplus
		Fetch groups		i	\oplus
		Fetch attributes		()	\oplus
	Search for MA	C Address in format	XX-XX-XX-XX-XX	• ()	

9. Erstellen Sie eine einfache Authentifizierungsregel mit ODBC, und testen Sie sie:

•	Aut	hent	tication Policy				
		~	MAB	: If Wired_MAB OR Wireless_MAB	Allow Protocols : Default Network Access	and	Edit 🕶
			Default	use Internal Endpoints			
-		~	Dot1X	: If Wired_802.1X OR Wireless_802.1X	Allow Protocols : Default Network Access	and	Edit 🕶
			Default	:use All_User_ID_Stores			
	ø		test_aaa	: If Radius:Service-Type EQUALS Login	Allow Protocols : Default Network Access	and	Edit 🕶
			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.

Jsername odbcuser1 Endpoint Id Endpoint Profile Authentication Policy Default >> te: Authorization Result PermitAccess thentication Details Source Timestamp 2016-06-08 11:1 Parcelated Timestamp 20	st_aaa >> Default ifault
Endpoint Id Endpoint Profile Authentication Policy Default >> te: Authorization Result PermitAccess thentication Details Source Timestamp 2016-06-08 11:1 Received Timestamp 2016-08-08 11:1	st_aaa >> Default ifault
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Authentication Policy Default >> ter Authorization Policy Default >> Def	st_aaa >> Default ifault
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thentication Details Source Timestamp 2016-06-08 11:	
2016-06-08 11:	N 07 004
Corpived Limestamp 2016-08-01	14:07:004
	14:07.005
Policy Server bise236	
Event 5200 Authentica	ation succeeded
Policy Server bise236	14:07.005

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 - $\ensuremath{ISE}\xspace_{ODBC}$
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

Steps

Schritt 4: Gruppenabruf konfigurieren

1. Erstellen Sie Tabellen mit Benutzergruppen und eine andere Tabelle für die Many-to-Many-Zuordnung:

```
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. Fügen Sie Gruppen und Zuordnungen hinzu, sodass ODBCUSER1 zu beiden Gruppen gehört:

```
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. Vorgang zum Abrufen von Gruppen erstellen:

```
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. Zuordnen zu Fetch-Gruppen:

ODBC List > ISE_ODBC

ODBC Identity Source

Genera	l Connection	Stored Procedures	Attributes	Groups
	Stored procedure type	Returns recordset	Ψ	
Plain text	password authentication	ISEAuthUserPlainReturnsRec	ordset	\oplus
Pla	in text password fetching	ISEFetchPasswordReturnsRe	cordset	\oplus
Check use	ername or machine exists	ISEUserLookupReturnsRecor	dset	\oplus
	Fetch groups	ISEGroupsRetrieval	i	Ð
	Fetch attributes	ISEAttrsRetrieval	i	\oplus
Search f	or MAC Address in format	xx-xx-xx-xx-xx	• (i)	

5. Abrufen der Gruppen und Hinzufügen dieser Gruppen zur ODBC-Identitätsquelle:

ODBC List > ISE_ODBC				
ODBC Identity Source				
General Connecti	ion Stored Procedures	Attributes Groups		
/ Edit 🕂 Add 👻 🗙 Delete				
Name	Name in ISE			
		No data available		
	Select Groups from	DDBC		х
	Sample User or Machir	odbcuser1	(i) Retrieve Groups	
	Name	Name in ISE		
	✓ ODBCGroup1	ODBCGroup1		
	✓ ODBCGroup2	ODBCGroup2		
			OK	Cancol
			UK	Cancel

6. Fügen Sie einen anderen Benutzer hinzu, der keiner Gruppe angehört:

insert into ISE_Users(username,password) values('odbcuser2','odbcpass');
7. Erstellen eines spezifischen Policy Set und Tests:

Policy Sets Profiling Posture Client Provisio	ning			
Policy Sets Search policy names & descriptions.	Define the Policy Sets by configuring rules For Policy Export go to Administration > S	s based on conditions. Drag and drop sets system > Backup & Restore > Policy Export	on the left hand side to change the order. Page	
+• ₽₀• ↑ ↓ × œ	Status Name	Description	Conditions Radius:Service-Type EQUALS Login	Edit
Summary of Policies A list of all your policies	 Authentication Policy 			
Rules across entire deployment	Default Rule (If no match) : Allow Protocols : Default Network	Access and use : ISE_ODBC	Edit 🕶
TestAAA	- Authorization Policy			
VPN	Automization Policy			
Default Default	Standard			
Save Urder Keset Order	Status Rule Name	Conditions (identity groups and if ISE_ODBC:ExternalGroups EQ ODBCGroup1	other conditions) Permissions UALS then PermitAccess	Edit 🕶
	🛃 Default	if no matches, then DenyAccess	3	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

Schritt 5: Konfigurieren des Abrufen von Attributen

1. Um dieses Beispiel zu vereinfachen, wird eine flache Tabelle für Attribute verwendet:

```
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. Erstellen Sie ein Attribut für einen der Benutzer:

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. Erstellen einer gespeicherten Prozedur:

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. Zuordnen zu Attributen abrufen:

ODBC List > ISE_ODBC

ODBC Identity Source

General	Connection	Stored Procedures	Attributes	Groups
S	Stored procedure type	Returns recordset	*	
Plain text pa	ssword authentication	ISEAuthUserPlainReturnsRec	cordset	\oplus
Plain t	ext password fetching	ISEFetchPasswordReturnsRe	cordset	\oplus
Check userna	me or machine exists	ISEUserLookupReturnsRecor	rdset	\oplus
	Fetch groups	ISEGroupsRetrieval	(\oplus
	Fetch attributes	ISEAttrsRetrieval	<i>(i)</i>	\oplus
Search for I	MAC Address in format	xx-xx-xx-xx-xx	• ()	

5. Abrufen der Attribute:

Select Attributes from ODBC								
Sample User or Mach	nine odbci	user2		i	Retrie	ve Attributes		
Name	-	Туре	•	Default Value		Name in ISE		
AwsomenessLev	rel	STRING		100		AwsomenessLevel		
UserType	:	STRING		admin		UserType		



6. Ändern Sie die ISE-Regeln:

Status R	ile Name 1Access	Conditions (if ISE_ODBC:I ODBCGroup	identity groups a ExternalGroups E 1	nd other conditions) EQUALS	F then	Permissions PermitAcces	s			Edit 🕶
🖉 🖉 🛛 Awes	meUser	if ISE_ODBC:	AwsomenessLev	el EQUALS 100		PermitAcces	s			Edit 🕶
🔽 Defau	t	if no matches, th	en DenyAcc	ess						Edit 🕶
C Refresh C Res	Repeat Counts A Export 1	ſo ▼								▼ Filter -
Time	Status	Details	Repeat Ide	ntity E	indpoint I	D	Endpoint Pr	Authenticat	Authorization Policy	Authorizatio
×		\$	Ide	entity	Endpoint II)	Endpoint Profi	Authenticatior	Authorization Policy	Authorization
Jun 08, 2016 12	1:45.596 PM	Q	odb	cuser2				TestAAA >>	TestAAA >> AwesomeUser	PermitAccess

Fehlerbehebung

Wenn die Verbindung nicht erfolgreich hergestellt werden kann, überprüfen Sie das Ereignisprotokoll von Windows. Verwenden Sie bei der ISE den Befehl **show logging application prt-management.log tail** beim Verbindungsversuch.

Beispiel für einen schlechten Authentifizierungsmodus:

```
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)
```

😹 Event Viewer						
File Action View Help						
🗢 🔿 🚈 📊 🔽 🕞						
🛃 Event Viewer (Local)	Application Number of	fevents: 29,048 (!) New events available				
Custom Views	Lauri	Data and Time	Courses	Event ID	Teals Catagons	
Windows Logs	Level	Date and time	Source	Event ID	Task Category	
Application		6/8/2016 11:08:07 AM	MSSQLSERVER	33090	Server	
Security	Information	6/8/2016 11:03:58 AM	MSSQLSERVER	18455	Logon	
Setup	Information	6/8/2016 11:03:39 AM	MSSQLSERVER	18456	Logon	
System	Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
Forwarded Events	Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
Applications and Services Logs	1 Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
Active Directory web Services	1 Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
Dirscetery Service	1 Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
Directory Service	1 Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
Hardware Events	Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
Internet Explorer	1 Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
Key Management Service	 Information 	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
	1 Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
E Windows	1 Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
API-Tracing	1 Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
	1 Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
Application Server-Applications	1 Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
Application-Experience	1 Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
🗉 🧮 AppLocker	1 Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
🗉 🧮 Audio	1 Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
🗉 🚞 Authentication User Interface	1 Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
🗉 🧮 Bits-Client	1 Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
🗉 🧮 CAPI2	(i) Information	6/8/2016 11:02:23 AM	MSSOLSERVER	5084	Server	
표 🧰 CertificateServicesClient-Creden	1 Information	6/8/2016 11:02:23 AM	MSSQLSERVER	5084	Server	
🕀 🚞 CertPolEng	Information	6/8/2016 11:02:23 AM		5084	Server	-
🗉 🦲 CodeIntegrity	Event 18456 MSSOLSEE	2VER				×
CorruptedFileRecovery-Server	General Details					
🕀 🛄 DateTimeControlPanel						1
DeviceSync	Login failed for use	r 'hahaland' administrator' Peacon: An attem	at to login using SQL authentication f	ailed. Sequenic configured for	Windows	
Dhcp-Client	authentication only	CLIENT-10.48.30.2361	priologin using SQL authentication is	alleu, server is configured for	windows	
Dhcp-Nap-Enforcement-Client	authentication only	. [ccici41, 20/40/39/200]				
T INCP-Server						

Beispiel für Benutzer, die keine Berechtigungen zum Öffnen der Datenbank besitzen:

```
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-
2a886642a821
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.SQLServerConnection.sendLogon(SQLServerConnection.java:2908)
at com.microsoft.sqlserver.jdbc.SQLServerConnection.logon(SQLServerConnection.java:2234)
at com.microsoft.sqlserver.jdbc.SQLServerConnection.logon(SQLServerConnection.java:41)
```

🛃 Event Viewer					
File Action View Help					
🗧 🔿 🗾 🔢 🖬					
🛃 Event Viewer (Local)	Application Number of	events: 29,048 (!) New events available			Ac
Custom Views					
🖃 📫 Windows Logs	Level	Date and Time	Source	Event ID Task Category	
Application	Information	6/8/2016 11:13:56 AM	MSSQLSERVER	18456 Logon	
ecurity	1 Information	6/8/2016 11:13:21 AM	MSSQLSERVER	3408 Server	
Setup	1 Information	6/8/2016 11:13:21 AM	MSSQLSERVER	9688 Server	
System	Information	6/8/2016 11:13:21 AM	MSSQLSERVER	9666 Server	
Forwarded Events	1 Information	6/8/2016 11:13:21 AM	MSSQLSERVER	9666 Server	
Applications and Services Logs	(1) Information	6/8/2016 11:13:21 AM	MSSQLSERVER	17137 Server	
Active Directory Web Services	(1) Information	6/8/2016 11:13:21 AM	MSSQLSERVER	17126 Server	T T
Dirsten Sauia	1 Information	6/8/2016 11:13:21 AM	MSSQLSERVER	26059 Server	
Directory Service	(i) Information	6/8/2016 11:13:21 AM	MSSQLSERVER	26059 Server	00
Hardware Events	1 Information	6/8/2016 11:13:21 AM	MSSQLSERVER	17201 Server	
	(i) Information	6/8/2016 11:13:21 AM	MSSQLSERVER	26022 Server	
Key Management Service	(i) Information	6/8/2016 11:13:21 AM	MSSQLSERVER	26022 Server	
	 Information 	6/8/2016 11:13:21 AM	MSSQLSERVER	26048 Server	
E Windows	 Information 	6/8/2016 11:13:21 AM	MSSQLSERVER	26048 Server	
F API-Tracing	 Information 	6/8/2016 11:13:21 AM	MSSQLSERVER	26022 Server	
	Information	6/8/2016 11:13:21 AM	MSSQLSERVER	26022 Server	
Application Server-Applications	1 Information	6/8/2016 11:13:21 AM	MSSQLSERVER	17136 Server	?
Application-Experience	1 Information	6/8/2016 11:13:21 AM	MSSQLSERVER	26013 Server	
🕀 🧮 AppLocker	1 Information	6/8/2016 11:13:21 AM	MSSQLSERVER	17137 Server	Ev
🕀 🧮 Audio	1 Information	6/8/2016 11:13:21 AM	MSSQLSERVER	17137 Server	
🗉 🚞 Authentication User Interface	 Information 	6/8/2016 11:13:21 AM	MSSQLSERVER	17663 Server	5
🕀 🚞 Bits-Client	 Information 	6/8/2016 11:13:21 AM	MSSQLSERVER	17137 Server	
E CAPI2	 Information 	6/8/2016 11:13:20 AM	MSSQLSERVER	958 Server	
E CertificateServicesClient-Creden	(i) Information	6/8/2016 11:13:20 AM	MSSQLSERVER	17137 Server	
🕀 📃 CertPolEng	Information	6/8/2016 11:13:20 AM	MSSOL SED//ED	19030 Server	
CodeIntegrity	Event 18456, MSSOLSER	VER			X Q
CorruptedFileRecovery-Client					- 2
CorruptedFileRecovery-Server	General Details				
Date ImeControlPanel					
🗄 🔛 DeviceSync	Login failed for user	'ISEDBUser', Reason: Failed to open the expl	icitly specified database, [CLIENT: 10.48.]	39.2361	
Uncp-Client Dece Nee Enforcement Client		the spin range to open the copi			
DHCP-Server					
		132080ser . Reason, Paned to open the expr	icitiy specified database. [CEIEW1: 10.40.	[טבג.פכ	

Aktivieren Sie zur Fehlerbehebung bei DB-Vorgängen unter Administration > System > Logging > Debug Log Configuration die Option odbc-id-store auf DEBUG-Ebene.

Protokolle werden in der Datei prrt-management.log abgelegt.

Beispiel für 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=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, Conection 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 epmty 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 retured 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