使用Oracle資料庫在ISE 2.3上配置ODBC

目錄

簡介 必要條件 需求 採用元件 設定 步驟1. Oracle基本配置 步驟2. ISE基本配置 步驟3.配置使用者身份驗證 步驟4.配置組檢索 步驟5.配置屬性檢索 步驟6.配置身份驗證/授權策略 步驟7.將Oracle ODBC新增到身份源序列 驗證 RADIUS即時日誌 詳細報表 疑難排解 使用的憑據不正確 錯誤的資料庫名稱(服務名稱) 排除使用者身份驗證故障 參考資料

簡介

本文檔介紹如何使用Oracle資料庫配置身份服務引擎(ISE),以便使用開放資料庫連線(ODBC)進行 ISE身份驗證。

開放式資料庫連線(ODBC)身份驗證要求ISE能夠獲取純文字檔案使用者密碼。密碼可以在資料庫中加密,但必須通過儲存過程解密。

必要條件

需求

思科建議您瞭解以下主題:

- 思科身分識別服務引擎2.3
- 資料庫和ODBC概念
- Oracle

採用元件

本文中的資訊係根據以下軟體和硬體版本:

- 身分識別服務引擎2.3.0.298
- Centos 7
- Oracle資料庫12.2.0.1.0
- Oracle SQL Developer 4.1.5

設定

附註:將本文檔中介紹的SQL過程視為示例。這不是正式推薦的Oracle DB配置方式。確保您 瞭解提交的每個SQL查詢的結果和影響。

步驟1. Oracle基本配置

在此示例中, Oracle配置了以下引數:

- 資料庫名稱: ORCL
- •服務名稱:orcl.vkumov.local
- •連接埠:1521(預設)
- •已使用使用者名稱ise為ISE建立帳戶

配置Oracle資料庫,然後繼續操作。

步驟2. ISE基本配置

在Administration > External Identity Source > ODBC處建立ODBC身份源並測試連線:

ODBC List > OracleDB

ODBC Identity Sou General	Urce Connection	Stored Procedures	Attributes	Groups
ODBC DB connectio	on details			
* Hostname/IP[:po	ort] 10.48.26.61			
* Database na	me orcl.vkumov.local			
Admin userna	me ise	(i)		
Admin passwo	ord			
* Time	out 5	Test connection		x
* Retr	ies 1	Connection succ	eeded	
* Database ty	oracle	Stored Procedur	es	I
	Test Connection	Plain text passw	ord authentication - N	lot Configured
		Check username	e or machine exists - I	Not Configured
		🚯 Fetch groups - N	lot Configured	
		Fetch attributes	- Not Configured	
				Close

附註: ISE使用服務名稱連線到Oracle,因此[資料庫名稱]欄位應填寫Oracle中存在的服務名 稱,而不是SID(或資料庫名稱)。 由於存在錯誤<u>CSCvf06497</u> dots(.),無法在[資料庫名稱]欄位中使用。此錯誤已在ISE 2.3中修正。

步驟3.配置使用者身份驗證

ODBC的ISE身份驗證使用儲存過程。可以選擇過程型別。在本示例中,我們使用記錄集作為返回。

有關其他步驟,請參閱思科身份服務引擎管理員指南2.3版

提示:可以返回命名引數而不是resultSet。它只是一種不同型別的輸出,功能是相同的。

1.使用使用者憑據建立表。請確保在主鍵上設定身份設定。

-- DDL for Table USERS

```
NOSCALE ,
"USERNAME" VARCHAR2(120 BYTE),
"PASSWORD" VARCHAR2(120 BYTE)
  ) SEGMENT CREATION IMMEDIATE
 PCTFREE 10 PCTUSED 40 INITRANS 1 MAXTRANS 255
NOCOMPRESS LOGGING
 STORAGE(INITIAL 65536 NEXT 1048576 MINEXTENTS 1 MAXEXTENTS 2147483645
 PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1
 BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT)
 TABLESPACE "USERS" ;
-----
-- DDL for Index USERS_PK
_____
 CREATE UNIQUE INDEX "ISE"."USERS_PK" ON "ISE"."USERS" ("USER_ID")
 PCTFREE 10 INITRANS 2 MAXTRANS 255
 STORAGE(INITIAL 65536 NEXT 1048576 MINEXTENTS 1 MAXEXTENTS 2147483645
 PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1
 BUFFER POOL DEFAULT FLASH CACHE DEFAULT CELL FLASH CACHE DEFAULT)
 TABLESPACE "USERS" ;
_____
                        _____
  Constraints for Table USERS
_____
 ALTER TABLE "ISE"."USERS" MODIFY ("USER_ID" NOT NULL ENABLE);
 ALTER TABLE "ISE". "USERS" MODIFY ("USERNAME" NOT NULL ENABLE);
 ALTER TABLE "ISE". "USERS" MODIFY ("PASSWORD" NOT NULL ENABLE);
 ALTER TABLE "ISE"."USERS" ADD CONSTRAINT "USERS_PK" PRIMARY KEY ("USER_ID")
 USING INDEX PCTFREE 10 INITRANS 2 MAXTRANS 255
 STORAGE(INITIAL 65536 NEXT 1048576 MINEXTENTS 1 MAXEXTENTS 2147483645
 PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1
 BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT)
 TABLESPACE "USERS" ENABLE;
```

或者從SQL Developer GUI:

🐻 Create T	able							×
<u>S</u> chema: <u>N</u> ame: <u>T</u> able Type:	ISE USERS Normal				•			✓ <u>A</u> dvanced
Q Search		<u>C</u> olu	mns: Q name					+ X
Columns		PK	Name	Data Type	Size	Not Null	Default	Comment
Indexes	ints	~	USER_ID	12 INT		 Image: A start of the start of	<identity colu<="" td=""><td></td></identity>	
In-Memo	bry		USERNAME	VARCHAR2	120	~		
Storage			PASSWORD	VARCHAR2	120	✓		· · · · · · · · · · · · · · · · · · ·
DDL	it	Dat	ta Type Constru	aints Indexes	LOB Parameter	s Identity Co	olumn	
		() C <u>o</u> lu Si <u>z</u> e	Simple O Comp umn Type: VARCI : 120	lex <u>V</u> irtual HAR2		• U	nits: <a>Not Specifie	d> ▼
<u>H</u> elp							ОК	Cancel

2.新增使用者

INSERT INTO "ISE"."USERS" (USERNAME, PASSWORD) VALUES ('alice', 'passwordl')
INSERT INTO "ISE"."USERS" (USERNAME, PASSWORD) VALUES ('bob', 'passwordl')
INSERT INTO "ISE"."USERS" (USERNAME, PASSWORD) VALUES ('admin', 'passwordl')

3.建立純文字檔案密碼身份驗證過程(用於PAP、EAP-GTC內部方法、TACACS)

```
create or replace function ISEAUTH_R
(
  ise_username IN VARCHAR2,
 ise_userpassword IN VARCHAR2
) return sys_refcursor AS
BEGIN
 declare
   c integer;
   resultSet SYS_REFCURSOR;
 begin
    select count(*) into c from USERS where USERS.USERNAME = ise_username and USERS.PASSWORD =
ise_userpassword;
    if c > 0 then
     open resultSet for select 0 as code, 11, 'good user', 'no error' from dual;
    ELSE
     open resultSet for select 3, 0, 'odbc', 'ODBC Authen Error' from dual;
   END IF;
    return resultSet;
```

end; END ISEAUTH_R;

4.建立純文字檔案密碼提取過程(用於CHAP、MSCHAPv1/v2、EAP-MD5、LEAP、EAP-MSCHAPv2內部方法、TACACS)

```
create or replace function ISEFETCH_R
(
 ise_username IN VARCHAR2
) return sys_refcursor AS
BEGIN
 declare
   c integer;
   resultSet SYS_REFCURSOR;
 begin
   select count(*) into c from USERS where USERS.USERNAME = ise_username;
   if c > 0 then
     open resultSet for select 0, 11, 'good user', 'no error', password from USERS where
USERS.USERNAME = ise_username;
     DBMS_OUTPUT.PUT_LINE('found');
   ELSE
      open resultSet for select 3, 0, 'odbc','ODBC Authen Error' from dual;
     DBMS_OUTPUT.PUT_LINE('not found');
   END IF;
   return resultSet;
 end;
END;
```

5.建立檢查使用者名稱或電腦存在的過程(用於MAB、PEAP快速重新連線、EAP-FAST和EAP-TTLS)

```
create or replace function ISELOOKUP_R
(
 ise_username IN VARCHAR2
) return sys_refcursor AS
BEGIN
 declare
   c integer;
   resultSet SYS_REFCURSOR;
  begin
    select count(*) into c from USERS where USERS.USERNAME = ise_username;
    if c > 0 then
      open resultSet for select 0, 11, 'good user', 'no error' from USERS where USERS.USERNAME =
ise_username;
    ELSE
      open resultSet for select 3, 0, 'odbc', 'ODBC Authen Error' from dual;
    END IF;
   return resultSet;
  end;
END;
```

6.在ISE上配置過程並儲存

ODBC List > OracleDB

ODBC Identity Source

General	Connection	Stored Procedures	Attributes	Groups
Sto	ored procedure type	Returns recordset	-	
Plain text pass	word authentication	ISEAUTH_R	۲	\oplus
Plain tex	t password fetching	ISEFETCH_R	()	\oplus
Check usernam	e or machine exists	ISELOOKUP_R	<i>i</i>	\oplus
	Fetch groups		(\oplus
	Fetch attributes		<i>i</i>	\oplus
Search for MA	AC Address in format	XX-XX-XX-XX-XX-XX	• (i)	

7.返回「連線」頁籤,然後按一下「測試連線」按鈕

ſ	Test connection	x
	Connection succeeded	
	Stored Procedures	
	Plain text password authentication - Exists	
	Plain text password fetching - Exists	
	Check username or machine exists - Exists	
	Fetch groups - Not Configured	
	Fetch attributes - Not Configured	
		Close
L		

步驟4.配置組檢索

1.建立包含使用者組和用於多對多對映的另一使用者組的表

-- DDL for Table GROUPS

 NOSCALE , "GROUP_NAME" VARCHAR2(255 BYTE), "DESCRIPTION" CLOB) SEGMENT CREATION IMMEDIATE PCTFREE 10 PCTUSED 40 INITRANS 1 MAXTRANS 255 NOCOMPRESS LOGGING STORAGE(INITIAL 65536 NEXT 1048576 MINEXTENTS 1 MAXEXTENTS 2147483645 PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT) TABLESPACE "USERS" LOB ("DESCRIPTION") STORE AS SECUREFILE (TABLESPACE "USERS" ENABLE STORAGE IN ROW CHUNK 8192 NOCACHE LOGGING NOCOMPRESS KEEP_DUPLICATES STORAGE(INITIAL 106496 NEXT 1048576 MINEXTENTS 1 MAXEXTENTS 2147483645 PCTINCREASE 0 BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT)) ; _____ -- DDL for Table USER_GROUPS_MAPPING _____ CREATE TABLE "ISE"."USER_GROUPS_MAPPING" ("USER_ID" NUMBER(*,0), "GROUP_ID" NUMBER(*,0)) SEGMENT CREATION IMMEDIATE PCTFREE 10 PCTUSED 40 INITRANS 1 MAXTRANS 255 NOCOMPRESS LOGGING STORAGE(INITIAL 65536 NEXT 1048576 MINEXTENTS 1 MAXEXTENTS 2147483645 PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1 BUFFER POOL DEFAULT FLASH CACHE DEFAULT CELL FLASH CACHE DEFAULT) TABLESPACE "USERS" ; _____ -- DDL for Index GROUPS_PK _____ CREATE UNIQUE INDEX "ISE"."GROUPS_PK" ON "ISE"."GROUPS" ("GROUP_ID") PCTFREE 10 INITRANS 2 MAXTRANS 255 STORAGE(INITIAL 65536 NEXT 1048576 MINEXTENTS 1 MAXEXTENTS 2147483645 PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT) TABLESPACE "USERS" ; _____ -- DDL for Index USER_GROUPS_MAPPING_UK1 _____ CREATE UNIQUE INDEX "ISE"."USER_GROUPS_MAPPING_UK1" ON "ISE"."USER_GROUPS_MAPPING" ("USER_ID", "GROUP_ID") PCTFREE 10 INITRANS 2 MAXTRANS 255 COMPUTE STATISTICS STORAGE(INITIAL 65536 NEXT 1048576 MINEXTENTS 1 MAXEXTENTS 2147483645 PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT) TABLESPACE "USERS" ; _____ _____ -- Constraints for Table GROUPS _____ ALTER TABLE "ISE". "GROUPS" MODIFY ("GROUP_ID" NOT NULL ENABLE); ALTER TABLE "ISE". "GROUPS" MODIFY ("GROUP_NAME" NOT NULL ENABLE); ALTER TABLE "ISE". "GROUPS" ADD CONSTRAINT "GROUPS_PK" PRIMARY KEY ("GROUP_ID") USING INDEX PCTFREE 10 INITRANS 2 MAXTRANS 255 STORAGE(INITIAL 65536 NEXT 1048576 MINEXTENTS 1 MAXEXTENTS 2147483645 PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT) TABLESPACE "USERS" ENABLE;

-- Constraints for Table USER_GROUPS_MAPPING

ALTER TABLE "ISE"."USER_GROUPS_MAPPING" MODIFY ("USER_ID" NOT NULL ENABLE); ALTER TABLE "ISE"."USER_GROUPS_MAPPING" MODIFY ("GROUP_ID" NOT NULL ENABLE); ALTER TABLE "ISE"."USER_GROUPS_MAPPING" ADD CONSTRAINT "USER_GROUPS_MAPPING_UK1" UNIQUE ("USER_ID", "GROUP_ID") USING INDEX PCTFREE 10 INITRANS 2 MAXTRANS 255 COMPUTE STATISTICS STORAGE(INITIAL 65536 NEXT 1048576 MINEXTENTS 1 MAXEXTENTS 2147483645 PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT) TABLESPACE "USERS" ENABLE;

在 GUI 上:

🔂 Edit Table								×
Schema: ISE Name: GROUPS					v			
Q Search	Colu	mnet Q name			•		a y 1	5
Columns	<u>C</u> OIU	Name	Data Type	Size	Not Null	Default	Comment	4
- Constraints	07	GROUP TD	13 NUMBER	UNEC		<tdentity colu<="" td=""><td>connert</td><td></td></tdentity>	connert	
- Indexes	- W	GROUP NAME	VARCHAR2	255		cachary colum		
Storage	-	DESCRIPTION	CLOB					
Comment DDL								
	A.							No.
	Dat	a Type Constr	aints Indexes	LOB Para	meters Identity Co	umn		
	Cor	nstraints on Colun	ın:					
	Co	nstraint Name		Constraint T	ype	Other Columns		-
	GRO	DUPS_PK		🏹 Primary K	(ey			_
Help						ОК	Car	ncel

🔂 Edit Table								×
Schema: ISE Name: USER_GROUPS_MAPPIN	G				-			
Table Type: Normal					-			
Q Search	<u>C</u> olu	mns: Q name					+ X 🗈	1
Columns	PK	Name	Data Type	Size	Not Null	Default	Comment	1
Indexes		USER_ID	NUMBER		Image:			
In-Memory		GROUP_ID	NUMBER		~			
DDL		- Turos - Contri	rainta Indova		Identity Co			
	Dat	a rype Const	raints Indexes		eters dentity Col	umn		
	Cor	nstraints on Colu	mn:					
	Co	nstraint Name		Constraint Typ	be	Other Columns		-
	USE	R_GROUPS_MAP	PPING_UK1	See Unique		GROUP_ID		
Help						ОК	Cano	el

2.新增組和對映,以便alice和bob屬於組Users,而admin屬於組Admins

-- Adding groups INSERT INTO "ISE"."GROUPS" (GROUP_NAME, DESCRIPTION) VALUES ('Admins', 'Group for administrators') INSERT INTO "ISE"."GROUPS" (GROUP_NAME, DESCRIPTION) VALUES ('Users', 'Corporate users') -- Alice and Bob are users INSERT INTO "ISE"."USER_GROUPS_MAPPING" (USER_ID, GROUP_ID) VALUES ('1', '2') INSERT INTO "ISE"."USER_GROUPS_MAPPING" (USER_ID, GROUP_ID) VALUES ('1', '2') -- Admin is in Admins group INSERT INTO "ISE"."USER_GROUPS_MAPPING" (USER_ID, GROUP_ID) VALUES ('2', '2')

3.建立組檢索過程。如果使用者名稱是「*」,則返回所有組

create or replace function ISEGROUPSH
(
 ise_username IN VARCHAR2,
 ise_result OUT int
) return sys_refcursor as
BEGIN
 declare
 c integer;
 userid integer;
 resultSet SYS_REFCURSOR;

```
begin
   IF ise_username = '*' then
     ise_result := 0;
     open resultSet for select GROUP_NAME from GROUPS;
   ELSE
     select count(*) into c from USERS where USERS.USERNAME = ise_username;
     select USER_ID into userid from USERS where USERS.USERNAME = ise_username;
      IF c > 0 then
         ise_result := 0;
         open resultSet for select GROUP_NAME from GROUPS where GROUP_ID IN ( SELECT m.GROUP_ID
from USER_GROUPS_MAPPING m where m.USER_ID = userid );
     ELSE
         ise_result := 3;
         open resultSet for select 0 from dual where 1=2;
     END IF;
   END IF;
   return resultSet;
 end;
END ;
```

4.將其對映到**提取組**

ODBC List > OracleDB

ODBC Identity Source

General	Connection	Stored Procedures	Attributes	Groups
Stor	ed procedure type	Returns recordset	Ψ	
Plain text passw	ord authentication	ISEAUTH_R	(i)	\oplus
Plain text	password fetching	ISEFETCH_R	(i)	\oplus
Check username	or machine exists	ISELOOKUP_R	<i>i</i>)	\oplus
	Fetch groups	ISEGROUPSH	<i>i</i>	
	Fetch attributes		(i)	\oplus
Search for MAC	C Address in format	XX-XX-XX-XX-XX-XX	• ()	

5.獲取組並將其新增到ODBC身份源

Select Groups from ODBC							
Sample User or Macr	Retrieve Groups						
Name	Name in ISE						
Admins	Admins						
Users	Users						
	OK Cancel						

選擇所需的組並按一下「確定」,這些組將顯示在「**組**」頁籤上

ODBC List > OracleDB

ODBC Identity Source											
	General	Connection	Stored Procedures	Attributes	Groups						
	[©] Edit	XDelete									
	Name		Name in ISE								
	Admins		Admins								
	Users		Users								

步驟5.配置屬性檢索

1.為了簡化此示例,將平面表用於屬性

DDL for Table ATTRIBUTES
CREATE TABLE "ISE"."ATTRIBUTES"
("USER_ID" NUMBER(*,0),
"ATTR_NAME" VARCHAR2(255 BYTE),
"VALUE" VARCHAR2(255 BYTE)
) SEGMENT CREATION IMMEDIATE
PCTFREE 10 PCTUSED 40 INITRANS 1 MAXTRANS 255
NOCOMPRESS LOGGING
STORAGE(INITIAL 65536 NEXT 1048576 MINEXTENTS 1 MAXEXTENTS 2147483645
PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1
BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT)
TABLESPACE "USERS" ;

_____ -- DDL for Index ATTRIBUTES_PK _____ CREATE UNIQUE INDEX "ISE"."ATTRIBUTES_PK" ON "ISE"."ATTRIBUTES" ("ATTR_NAME", "USER_ID") PCTFREE 10 INITRANS 2 MAXTRANS 255 STORAGE(INITIAL 65536 NEXT 1048576 MINEXTENTS 1 MAXEXTENTS 2147483645 PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT) TABLESPACE "USERS" ; _____ -- Constraints for Table ATTRIBUTES _____ ALTER TABLE "ISE"."ATTRIBUTES" MODIFY ("USER_ID" NOT NULL ENABLE); ALTER TABLE "ISE"."ATTRIBUTES" MODIFY ("ATTR_NAME" NOT NULL ENABLE); ALTER TABLE "ISE"."ATTRIBUTES" ADD CONSTRAINT "ATTRIBUTES_PK" PRIMARY KEY ("ATTR_NAME", "USER_ID") USING INDEX PCTFREE 10 INITRANS 2 MAXTRANS 255 STORAGE(INITIAL 65536 NEXT 1048576 MINEXTENTS 1 MAXEXTENTS 2147483645 PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL DEFAULT FLASH_CACHE DEFAULT CELL_FLASH_CACHE DEFAULT) TABLESPACE "USERS" ENABLE;

在 GUI 上:

🔂 Edit Table								×
Schema: ISE					-			
Name: ATTRIBUTES								
Table Type: Normal					-			
Q Search	Colu	umns: Q name)				+ X	
Columns	PK	Name	Data Type	Size	Not Null	Default	Comment	
Indexes	*	USER_ID	NUMBER		Image:			
In-Memory	9	ATTR_NAME	VARCHAR2	255	~			
Storage		VALUE	VARCHAR2	255				
Comment								Û
L DDL								J.J.
								Ă.
								\leq
	Dat	ta Type Const	rainte Indeve	I OB Param	ators Identity Co	lumo		
	Dat	ta rype Const	ants mucke		ieters Identity Co			
	Co	nstraints on Colu	mn:					
	Co	onstraint Name		Constraint Ty	/pe	Other Colum	ns	-
	AT	TRIBUTES_FK1		💁 Foreign Ke	≥y			
	AT	TRIBUTES_PK		😽 Primary Ke	≥y	ATTR_NAME		
Hala								
						OK		ancei

2.為使用者建立一些屬性

INSERT INTO "ISE"."ATTRIBUTES" (USER_ID, ATTR_NAME, VALUE) VALUES ('1', 'SecurityLevel', '5') INSERT INTO "ISE"."ATTRIBUTES" (USER_ID, ATTR_NAME, VALUE) VALUES ('2', 'SecurityLevel', '10') 3.建立過程。與組檢索相同,如果使用者名稱是「*」,它將返回所有不同的屬性

```
create or replace function ISEATTRSH
(
 ise_username IN VARCHAR2,
 ise_result OUT int
) return sys_refcursor as
BEGIN
 declare
   c integer;
   userid integer;
   resultSet SYS_REFCURSOR;
 begin
   IF ise_username = '*' then
     ise_result := 0;
     open resultSet for select DISTINCT ATTR_NAME, '0' as "VAL" from ATTRIBUTES;
   ELSE
     select count(*) into c from USERS where USERS.USERNAME = ise_username;
     select USER_ID into userid from USERS where USERS.USERNAME = ise_username;
     if c > 0 then
          ise_result := 0;
         open resultSet for select ATTR_NAME, VALUE from ATTRIBUTES where USER_ID = userid;
      ELSE
         ise_result := 3;
         open resultSet for select 0 from dual where 1=2;
      END IF;
   END IF;
   return resultSet;
  end;
END ;
```

4.將其對映到Fetch屬性

ODBC List > OracleDB

ODBC Identity Source

General	Connection	Stored Procedures	Attribut	tes		Groups
Sto	red procedure type	Returns recordset	•			
Plain text pass	word authentication	ISEAUTH_R		i	\oplus	
Plain text	t password fetching	ISEFETCH_R		i	\oplus	
Check username	e or machine exists	ISELOOKUP_R		i	\oplus	
-	Eatch groups	TEFEROUREU			Ð	
	r etch groups	ISEGROUPSH		U	Ð	
	Fetch attributes	ISEATTRSH		<i>i</i>	\oplus	
Search for MA	C Address in format	XX-XX-XX-XX-XX-XX	Ŧ] (j		

Select Attributes from ODBC									
Sample User or Mach	ine *		Retrieve Attributes						
Name	Туре	Default Value	Name in ISE						
SecurityLevel	STRING	0	SecurityLevel						
			ОКС	ancel					

選擇屬性並按一下確定。

步驟6.配置身份驗證/授權策略

在此示例中,配置了以下簡單授權策略:

\odot	Allow admin network access	4	OracleDB ExternalGroups EQUALS Admins	× PermitAccess	+	Select from list	- +	1	٥
0	SecurityLevel too low	£;	OracleDB SecurityLevel EQUALS 5	× DenyAccess	+	Select from list	* +	0	٥
0	Allow users network access	4	OracleDB ExternalGroups EQUALS Users	× PermitAccess	+	Select from list	* +	2	٥

SecurityLevel = 5的使用者將被拒絕。

步驟7.將Oracle ODBC新增到身份源序列

導航到Administration > Identity Management > Identity Source Sequences, 選擇序列並將 ODBC新增到序列:

Identity Source Sequences List > All_User_ID_Stores

Identity Source Sequence

Identity Source Sequence

* Name All_User_ID_Stores
Description A built-in Identity Sequence to include all User Identity Stores

Certificate Based Authentication

Select Certificate Authentication Profile Preloaded_Certificate_P 💌

Authentication Search List

A set of identity sources that will be accessed in sequence until first authentication succeeds

Available

Selected

Internal Endpoints	•	> <	Internal Users All_AD_Join_Points Guest Users OracleDB		⊼ ∧
	+	» «		+	✓✓

Advanced Search List Settings

If a selected identity store cannot be accessed for authentication

- O Do not access other stores in the sequence and set the "AuthenticationStatus" attribute to "ProcessError"
- Treat as if the user was not found and proceed to the next store in the sequence



儲存它。

驗證

現在,您應該能夠根據ODBC驗證使用者並檢索其組和屬性。

RADIUS即時日誌

執行一些身份驗證並導航到操作> RADIUS >即時日誌

	Time	Status	Details	Repeat	Identity	Endpoint ID	Endpoint P	Authenticat	Authorizati	Authorizati	IP Address	Network Device
×		٠			Identity	Endpoint ID	Endpoint Prof	Authenticatior	Authorization	Authorization	IP Address 💌	Network Device
	Aug 08, 2017 04:31:32.545 PM	۲	ò		badUser	92:77:F1:E4:D2:53		Default >> D	Default			SWITCH
	Aug 08, 2017 04:31:32.465 PM	0	0	0	admin	61:AD:77:0F:DF:CF	FreeBSD-W	Default >> D	Default >> A	PermitAccess	83.133.106.96	
	Aug 08, 2017 04:31:32.460 PM	~	0		admin	61:AD:77:0F:DF:CF		Default >> D	Default >> A	PermitAccess		SWITCH
	Aug 08, 2017 04:31:32.365 PM	0	<u>o</u>	0	bob	FC:F4:97:F2:F5:4F		Default >> D	Default >> A	PermitAccess	241.97.134.20	
	Aug 08, 2017 04:31:32.359 PM		ò		bob	FC:F4:97:F2:F5:4F		Default >> D	Default >> A	PermitAccess		SWITCH
	Aug 08, 2017 04:31:32.237 PM	•	0		alice	42:27:B1:C6:F9:A4		Default >> D	Default >> S	DenyAccess		SWITCH

您可以看到,使用者Alice的**SecurityLevel = 5,**因此訪問被拒絕。

詳細報表

按一下相關會話的**Details**列中的**Detail報告**以檢查流。

使用者Alice的詳細報告(由於安全級別低而被拒絕):