# In the name of God
# Database Lab
# Spring 2016

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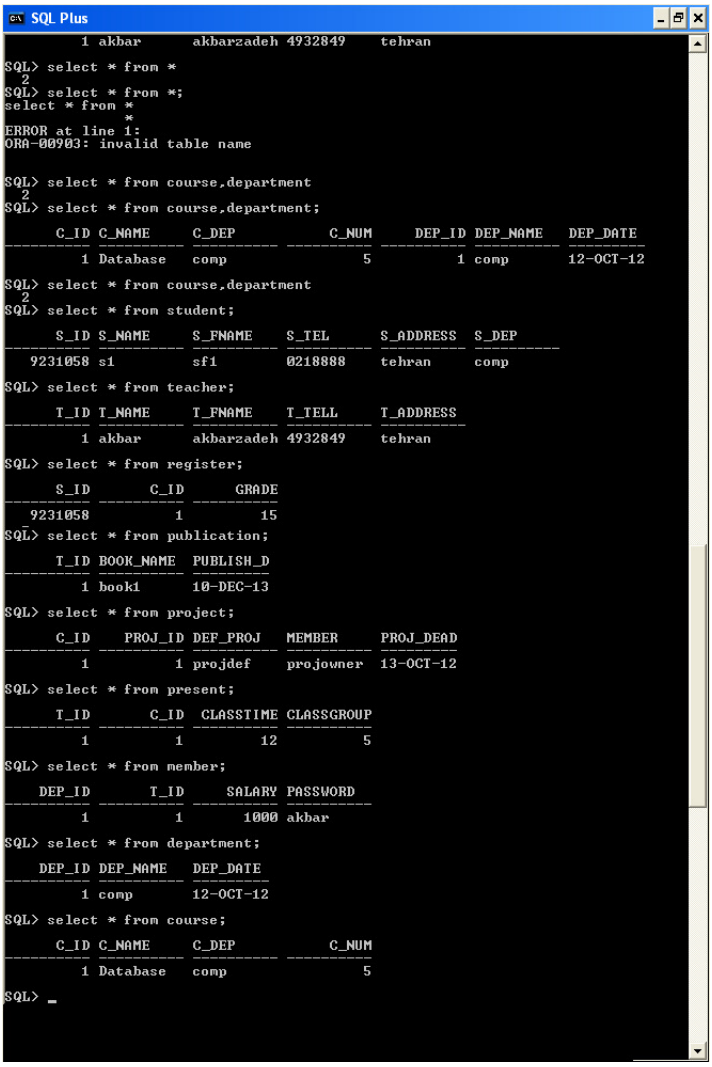
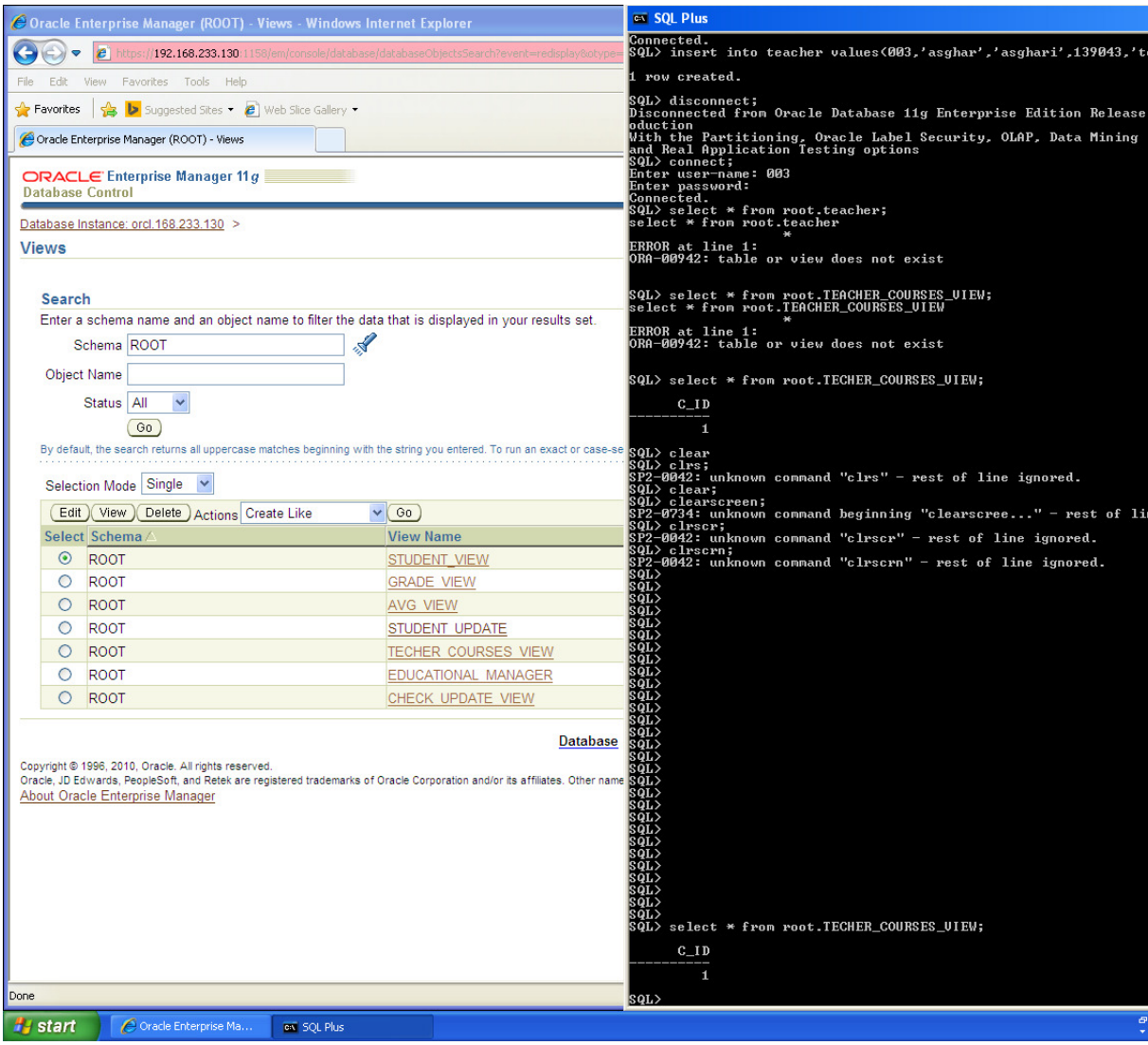
Date Performed: April 6, 2016
Partners: Sadjad Azami
Saman Fekri

# 1 Screen Shots

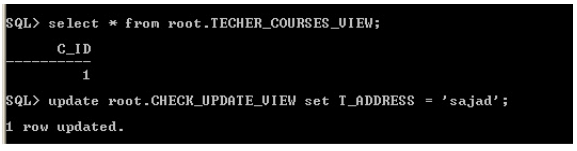
a.



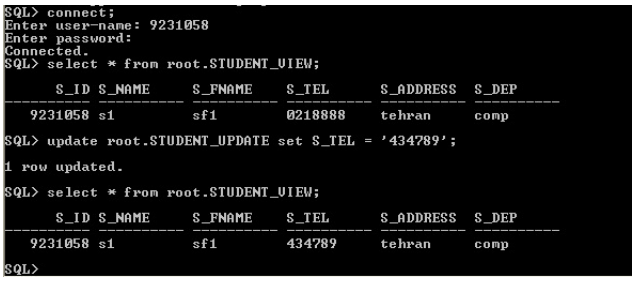
b.


Oracle Enterprise Manager (ROOT) - Views - Windows Internet Explorer
https://192.168.233.130:1158/em/console/database/databaseObjectsSearch?event=redisplay&otype=
File Edit View Favorites Tools Help
Favorites Suggested Sites Web Slice Gallery
Oracle Enterprise Manager (ROOT) - Views
ORACLE Enterprise Manager 11g
Database Control
Database Instance: orcl.168.233.130 >
Views
Search
Enter a schema name and an object name to filter the data that is displayed in your results set.
Schema ROOT
Object Name
Status All
Go
By default, the search returns all uppercase matches beginning with the string you entered. To run an exact or case-se
Selection Mode Single
Edit View Delete Actions Create Like Go
Select Schema View Name
ROOT STUDENT_VIEW
ROOT GRADE_VIEW
ROOT AVG_VIEW
ROOT STUDENT_UPDATE
ROOT TECHER_COURSES_VIEW
ROOT EDUCATIONAL_MANAGER
ROOT CHECK_UPDATE_VIEW
Database
Copyright © 1996, 2010, Oracle. All rights reserved.
Oracle, JD Edwards, PeopleSoft, and Retek are registered trademarks of Oracle Corporation and/or its affiliates. Other name
About Oracle Enterprise Manager
Done
SQL Plus
Connected.
SQL> insert into teacher values(003,'asghar','asghari',139043,'t
1 row created.
SQL> disconnect;
Disconnected from Oracle Database 11g Enterprise Edition Release
oduction
With the Partitioning, Oracle Label Security, OLAP, Data Mining
and Real Application Testing options
SQL> connect;
Enter user-name: 003
Enter password:
Connected.
SQL> select * from root.teacher;
select * from root.teacher
*
ERROR at line 1:
ORA-00942: table or view does not exist
SQL> select * from root.TEACHER_COURSES_VIEW;
select * from root.TEACHER_COURSES_VIEW
*
ERROR at line 1:
ORA-00942: table or view does not exist
SQL> select * from root.TECHER_COURSES_VIEW;
C_ID
1
SQL> clear
SQL> clrs;
SP2-0042: unknown command "clrs" - rest of line ignored.
SQL> clear;
SQL> clearscreen;
SP2-0734: unknown command beginning "clearscree..." - rest of li
SQL> clrscr;
SP2-0042: unknown command "clrscr" - rest of line ignored.
SQL> clrscrn;
SP2-0042: unknown command "clrscrn" - rest of line ignored.
SQL> select * from root.TECHER_COURSES_VIEW;
C_ID
1
SQL>
start
Oracle Enterprise Ma...
SQL Plus

c.

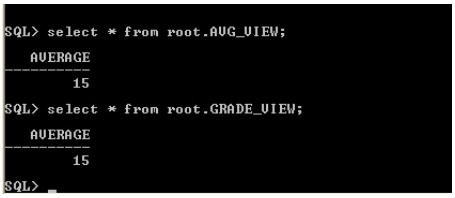

SQL> select * from root.TECHER_COURSES_VIEW;
C_ID
1
SQL> update root.CHECK_UPDATE_VIEW set T_ADDRESS = 'sajad';
1 row updated.

d.



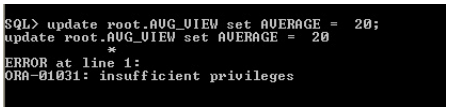
```
SQL> connect;
Enter user-name: 9231058
Enter password:
Connected.
SQL> select * from root.STUDENT_VIEW;

      S_ID S_NAME     S_FNAME    S_TEL      S_ADDRESS  S_DEP
---------- ---------- ---------- ---------- ---------- ----------
   9231058 s1         sf1        0218888    tehran     comp

SQL> update root.STUDENT_UPDATE set S_TEL = '434789';

1 row updated.

SQL> select * from root.STUDENT_VIEW;

      S_ID S_NAME     S_FNAME    S_TEL      S_ADDRESS  S_DEP
---------- ---------- ---------- ---------- ---------- ----------
   9231058 s1         sf1        434789     tehran     comp

SQL>
```

e.



```
SQL> select * from root.AVG_VIEW;

   AVERAGE
----------
        15

SQL> select * from root.GRADE_VIEW;

   AVERAGE
----------
        15

SQL>
```

f.

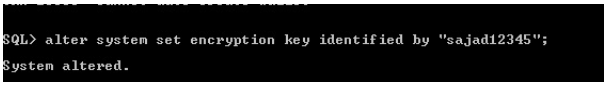


```
SQL> update root.AVG_VIEW set AVERAGE =  20;
update root.AVG_VIEW set AVERAGE =  20
            *
ERROR at line 1:
ORA-01031: insufficient privileges
```

g.

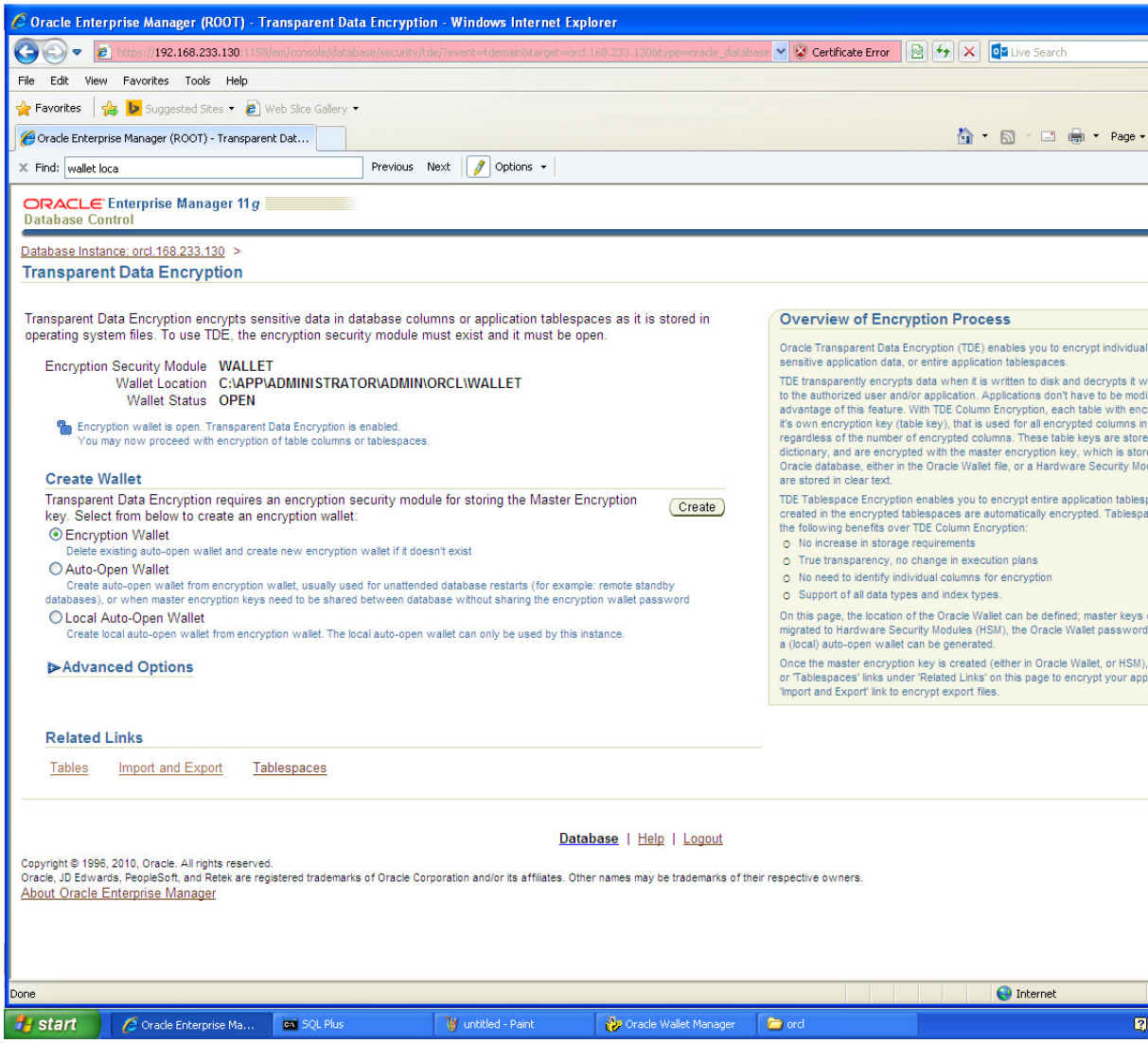
```
SQL> select * from root.EDUCATIONAL_MANAGER;

      S_ID S_NAME     S_FNAME    S_TEL      S_ADDRESS  S_DEP
---------- ---------- ---------- ---------- ---------- ----------
   9231058 s1         sf1        434789     tehran     comp

SQL> insert into root.EDUCATIONAL_MANAGER values(9231031,'s2','sf2','32313','teh
ran','comp');

1 row created.

SQL> update root.EDUCATIONAL_MANAGER set S_TEL = 112223;

2 rows updated.

SQL>
```

h.



```
SQL> alter system set encryption key identified by "sajad12345";

System altered.
```

i.


Oracle Enterprise Manager (ROOT) - Transparent Data Encryption - Windows Internet Explorer
Certificate Error
Live Search
File Edit View Favorites Tools Help
Favorites
Suggested Sites
Web Slice Gallery
Oracle Enterprise Manager (ROOT) - Transparent Dat...
Page
Find: wallet loca
Previous
Next
Options
ORACLE Enterprise Manager 11g
Database Control
Database Instance: orcl.168.233.130 >
Transparent Data Encryption
Transparent Data Encryption encrypts sensitive data in database columns or application tablespaces as it is stored in operating system files. To use TDE, the encryption security module must exist and it must be open.
Encryption Security Module WALLET
Wallet Location C:\APP\ADMINISTRATOR\ADMIN\ORCL\WALLET
Wallet Status OPEN
Encryption wallet is open. Transparent Data Encryption is enabled.
You may now proceed with encryption of table columns or tablespaces.
Create Wallet
Transparent Data Encryption requires an encryption security module for storing the Master Encryption key. Select from below to create an encryption wallet:
Create
Encryption Wallet
Delete existing auto-open wallet and create new encryption wallet if it doesn't exist
Auto-Open Wallet
Create auto-open wallet from encryption wallet, usually used for unattended database restarts (for example: remote standby databases), or when master encryption keys need to be shared between database without sharing the encryption wallet password
Local Auto-Open Wallet
Create local auto-open wallet from encryption wallet. The local auto-open wallet can only be used by this instance.
Advanced Options
Overview of Encryption Process
Oracle Transparent Data Encryption (TDE) enables you to encrypt individual sensitive application data, or entire application tablespaces.
TDE transparently encrypts data when it is written to disk and decrypts it w to the authorized user and/or application. Applications don't have to be modi advantage of this feature. With TDE Column Encryption, each table with enc it's own encryption key (table key), that is used for all encrypted columns in regardless of the number of encrypted columns. These table keys are store dictionary, and are encrypted with the master encryption key, which is stor Oracle database, either in the Oracle Wallet file, or a Hardware Security Mo are stored in clear text.
TDE Tablespace Encryption enables you to encrypt entire application tables created in the encrypted tablespaces are automatically encrypted. Tablespa the following benefits over TDE Column Encryption:
No increase in storage requirements
True transparency, no change in execution plans
No need to identify individual columns for encryption
Support of all data types and index types.
On this page, the location of the Oracle Wallet can be defined; master keys migrated to Hardware Security Modules (HSM), the Oracle Wallet password a (local) auto-open wallet can be generated.
Once the master encryption key is created (either in Oracle Wallet, or HSM), or 'Tablespaces' links under 'Related Links' on this page to encrypt your app 'Import and Export' link to encrypt export files.
Related Links
Tables
Import and Export
Tablespaces
Database | Help | Logout
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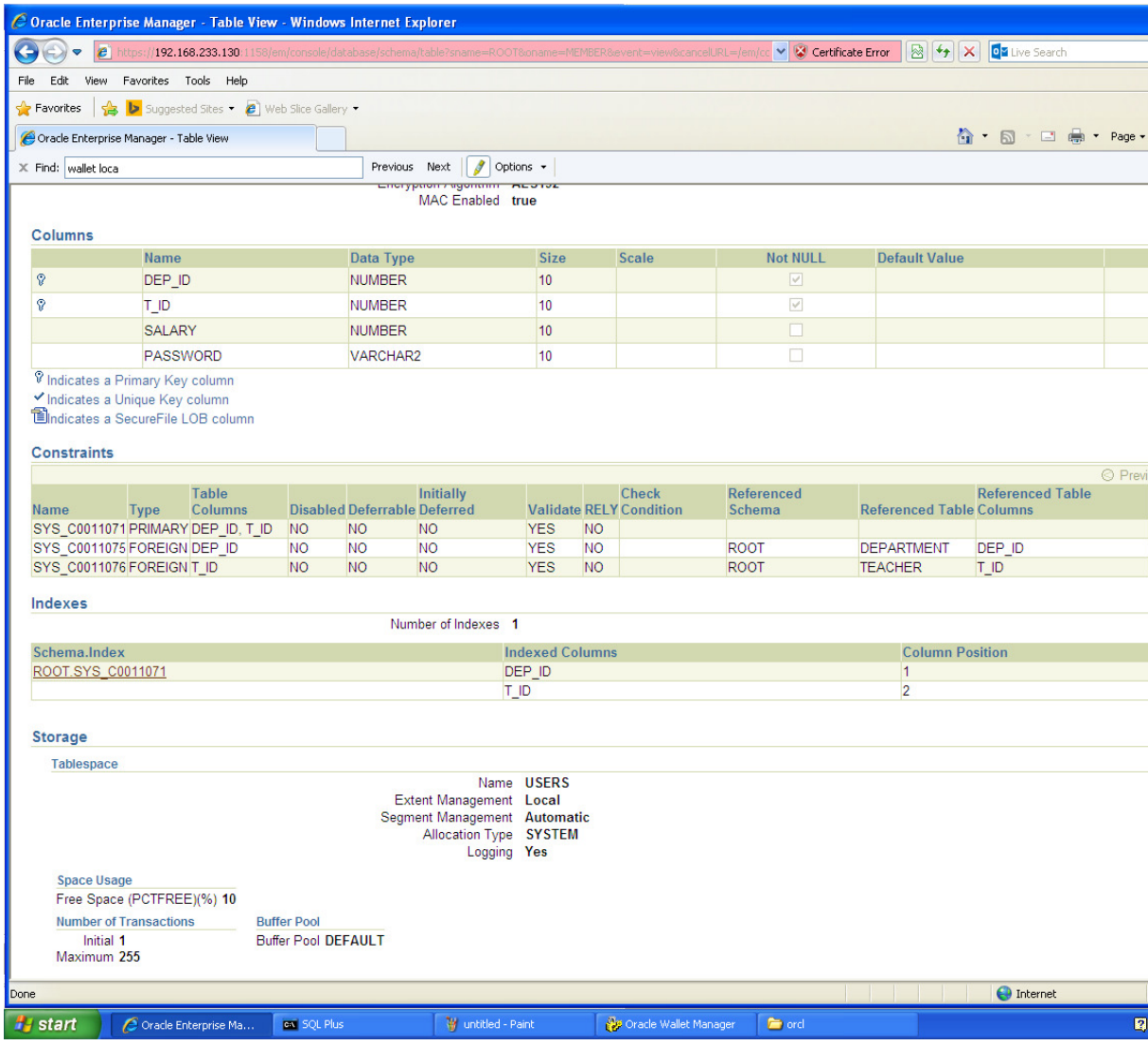
About Oracle Enterprise Manager
Done
Internet
start
Oracle Enterprise Ma...
SQL Plus
untitled - Paint
Oracle Wallet Manager
orcl

j.


Oracle Enterprise Manager - Table View - Windows Internet Explorer
Certificate Error
Live Search
File Edit View Favorites Tools Help
Favorites
Suggested Sites
Web Slice Gallery
Oracle Enterprise Manager - Table View
Page
Find: wallet loca
Previous
Next
Options
MAC Enabled true
Columns
Name
Data Type
Size
Scale
Not NULL
Default Value
DEP_ID
NUMBER
10
T_ID
NUMBER
10
SALARY
NUMBER
10
PASSWORD
VARCHAR2
10
Indicates a Primary Key column
Indicates a Unique Key column
Indicates a SecureFile LOB column
Constraints
Name
Type
Table Columns
Disabled
Deferrable
Initially Deferred
Validate
RELY
Check Condition
Referenced Schema
Referenced Table
Referenced Table Columns
SYS_C0011071
PRIMARY
DEP_ID, T_ID
NO
NO
NO
YES
NO
SYS_C0011075
FOREIGN
DEP_ID
NO
NO
NO
YES
NO
ROOT
DEPARTMENT
DEP_ID
SYS_C0011076
FOREIGN
T_ID
NO
NO
NO
YES
NO
ROOT
TEACHER
T_ID
Indexes
Number of Indexes 1
Schema.Index
Indexed Columns
Column Position
ROOT.SYS_C0011071
DEP_ID
1
T_ID
2
Storage
Tablespace
Name USERS
Extent Management Local
Segment Management Automatic
Allocation Type SYSTEM
Logging Yes
Space Usage
Free Space (PCTFREE)(%) 10
Number of Transactions
Initial 1
Maximum 255
Buffer Pool
Buffer Pool DEFAULT
Done
Internet
start
Oracle Enterprise Ma...
SQL Plus
untitled - Paint
Oracle Wallet Manager
orcl