Dictionarul bazei de date

(Cap. 5)

1) Structura dictionarului bazei de date:

```
SQL> desc dictionary
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 TABLE_NAME                                         VARCHAR2(30)
 COMMENTS                                           VARCHAR2(4000)
```

```
SQL> select table_name, comments from dictionary where table_name like 'USER_TAB%';

TABLE_NAME                     COMMENTS
------------------------------ --------------------------------------------------------------------------------
USER_TABLES                    Description of the user's own relational tables
USER_TABLESPACES               Description of accessible tablespaces
USER_TAB_COLS                  Columns of user's tables, views and clusters
USER_TAB_COLS_V$
USER_TAB_COLUMNS               Columns of user's tables, views and clusters
USER_TAB_COL_STATISTICS        Columns of user's tables, views and clusters
USER_TAB_COMMENTS              Comments on the tables and views owned by the user
USER_TAB_HISTGRM_PENDING_STATS Pending statistics of tables, partitions, and
                                                    subpartitions
USER_TAB_HISTOGRAMS            Histograms on columns of user's tables
USER_TAB_IDENTITY_COLS         Describes all table identity columns
USER_TAB_MODIFICATIONS         Information regarding modifications to tables
USER_TAB_PARTITIONS
USER_TAB_PENDING_STATS         History of table statistics modifications
USER_TAB_PRIVS                 Grants on objects for which the user is the owner, grantor or grantee
USER_TAB_PRIVS_MADE            All grants on objects owned by the user
USER_TAB_PRIVS_RECD            Grants on objects for which the user is the grantee
USER_TAB_STATISTICS            Optimizer statistics of the user's own tables
USER_TAB_STATS_HISTORY         History of table statistics modifications
USER_TAB_STAT_PREFS            Statistics preferences for tables
USER_TAB_SUBPARTITIONS
```

```
SQL> select table_name from dictionary where table_name like 'USER%';

TABLE_NAME
------------------------------
USER_INDEXES
USER_IND_COLUMNS
USER_IND_EXPRESSIONS
USER_JOIN_IND_COLUMNS
```

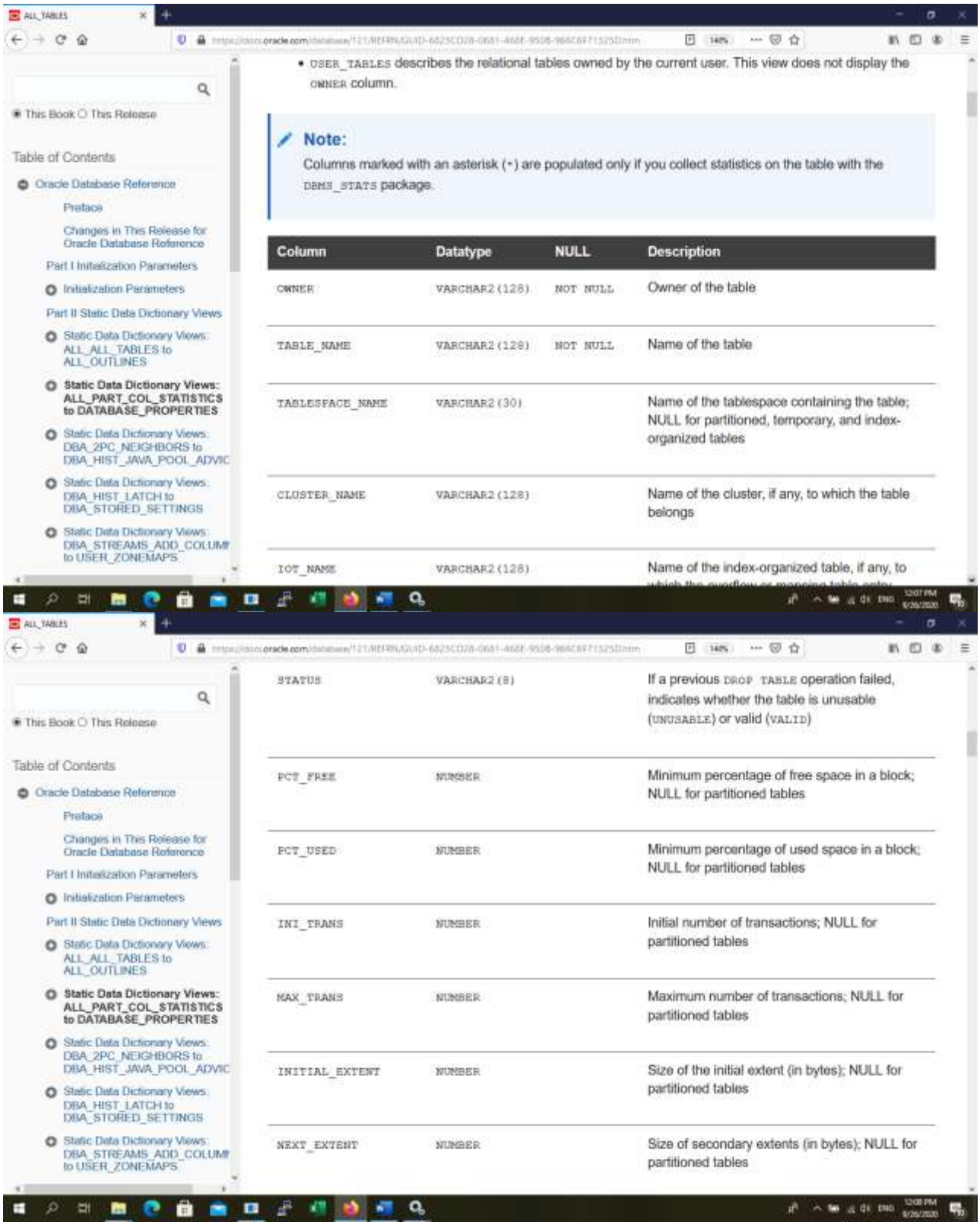
USER_OBJECTS
USER_PROCEDURES
USER_STORED_SETTINGS
USER_PLSQL_OBJECT_SETTINGS
USER_ARGUMENTS
USER_RESUMABLE
USER_ROLE_PRIVS
USER_SYS_PRIVS
USER_SEQUENCES
USER_SYNONYMS
USER_TABLES
USER_OBJECT_TABLES
USER_ALL_TABLES
USER_TAB_COLS
USER_TAB_COLUMNS
USER_NESTED_TABLE_COLS
USER_TAB_COL_STATISTICS
USER_TAB_HISTOGRAMS
USER_TAB_COMMENTS
USER_TAB_PRIVS
USER_TAB_PRIVS_MADE
USER_TAB_PRIVS_RECD
USER_USERS
USER_PROXIES
USER_VIEWS
USER_CONSTRAINTS

2) Toate tabelele create de userul current:

SQL> desc user_tables

Name	Null?	Type
TABLE_NAME	NOT NULL	VARCHAR2(30)
TABLESPACE_NAME		VARCHAR2(30)
CLUSTER_NAME		VARCHAR2(30)
IOT_NAME		VARCHAR2(30)
PCT_FREE		NUMBER
PCT_USED		NUMBER
INI_TRANS		NUMBER
MAX_TRANS		NUMBER
INITIAL_EXTENT		NUMBER
NEXT_EXTENT		NUMBER
MIN_EXTENTS		NUMBER
MAX_EXTENTS		NUMBER
PCT_INCREASE		NUMBER
FREELISTS		NUMBER
FREELIST_GROUPS		NUMBER

LOGGING	VARCHAR2(3)
BACKED_UP	VARCHAR2(1)
NUM_ROWS	NUMBER
BLOCKS	NUMBER
EMPTY_BLOCKS	NUMBER
AVG_SPACE	NUMBER
CHAIN_CNT	NUMBER
AVG_ROW_LEN	NUMBER
AVG_SPACE_FREELIST_BLOCKS	NUMBER
NUM_FREELIST_BLOCKS	NUMBER
DEGREE	VARCHAR2(10)
INSTANCES	VARCHAR2(10)
CACHE	VARCHAR2(5)
TABLE_LOCK	VARCHAR2(8)
SAMPLE_SIZE	NUMBER
LAST_ANALYZED	DATE
PARTITIONED	VARCHAR2(3)
IOT_TYPE	VARCHAR2(12)
TEMPORARY	VARCHAR2(1)
SECONDARY	VARCHAR2(1)
NESTED	VARCHAR2(3)
BUFFER_POOL	VARCHAR2(7)
ROW_MOVEMENT	VARCHAR2(8)
GLOBAL_STATS	VARCHAR2(3)
USER_STATS	VARCHAR2(3)
DURATION	VARCHAR2(15)
SKIP_CORRUPT	VARCHAR2(8)
MONITORING	VARCHAR2(3)
CLUSTER_OWNER	VARCHAR2(30)
DEPENDENCIES	VARCHAR2(8)



- USER_TABLES describes the relational tables owned by the current user. This view does not display the OWNER column.

Note:

Columns marked with an asterisk (*) are populated only if you collect statistics on the table with the DBMS_STATS package.

Column	Datatype	NULL	Description
OWNER	VARCHAR2(128)	NOT NULL	Owner of the table
TABLE_NAME	VARCHAR2(128)	NOT NULL	Name of the table
TABLESPACE_NAME	VARCHAR2(30)		Name of the tablespace containing the table; NULL for partitioned, temporary, and index-organized tables
CLUSTER_NAME	VARCHAR2(128)		Name of the cluster, if any, to which the table belongs
IOT_NAME	VARCHAR2(128)		Name of the index-organized table, if any, to
STATUS	VARCHAR2(8)		If a previous DROP TABLE operation failed, indicates whether the table is unusable (UNUSABLE) or valid (VALID)
PCT_FREE	NUMBER		Minimum percentage of free space in a block; NULL for partitioned tables
PCT_USED	NUMBER		Minimum percentage of used space in a block; NULL for partitioned tables
INI_TRANS	NUMBER		Initial number of transactions; NULL for partitioned tables
MAX_TRANS	NUMBER		Maximum number of transactions; NULL for partitioned tables
INITIAL_EXTENT	NUMBER		Size of the initial extent (in bytes); NULL for partitioned tables
NEXT_EXTENT	NUMBER		Size of secondary extents (in bytes); NULL for partitioned tables

SQL> select table_name from user_tables;

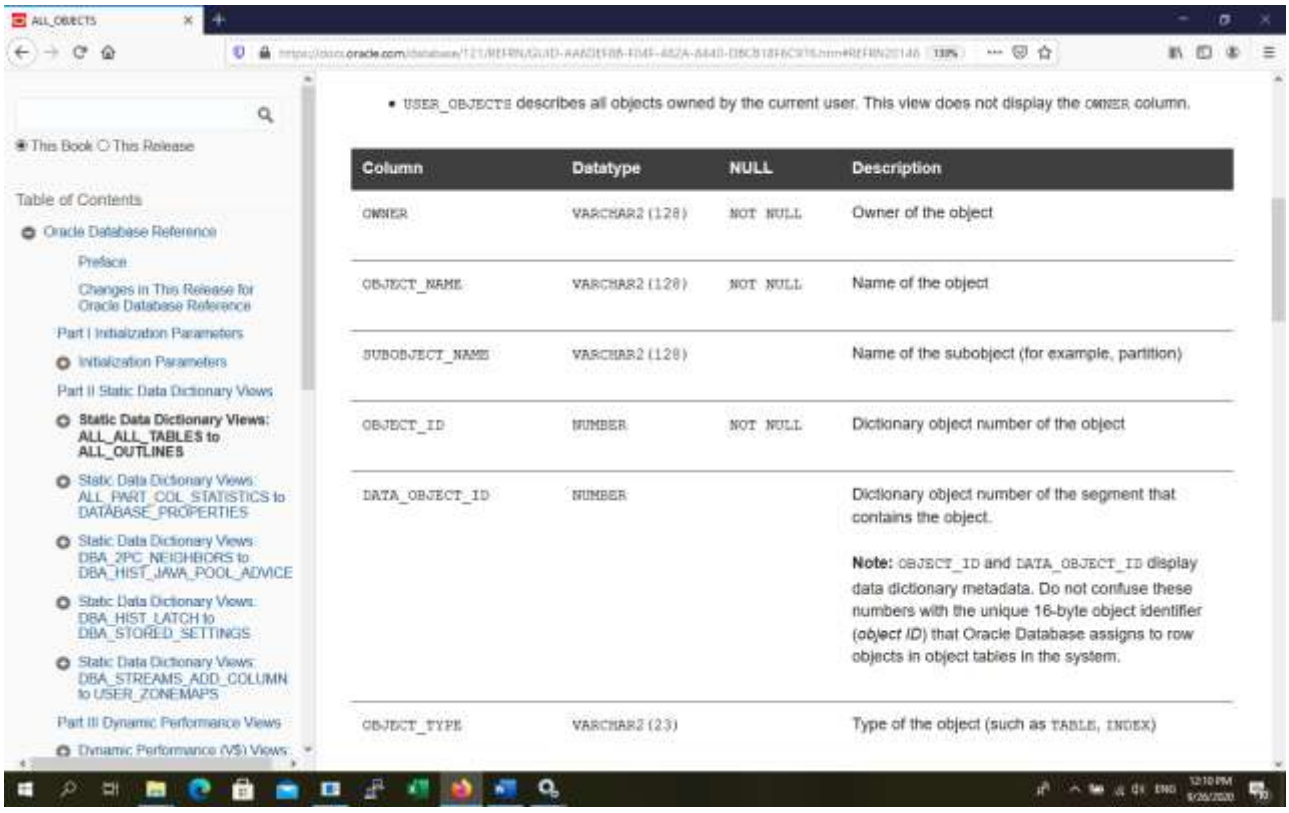
TABLE_NAME

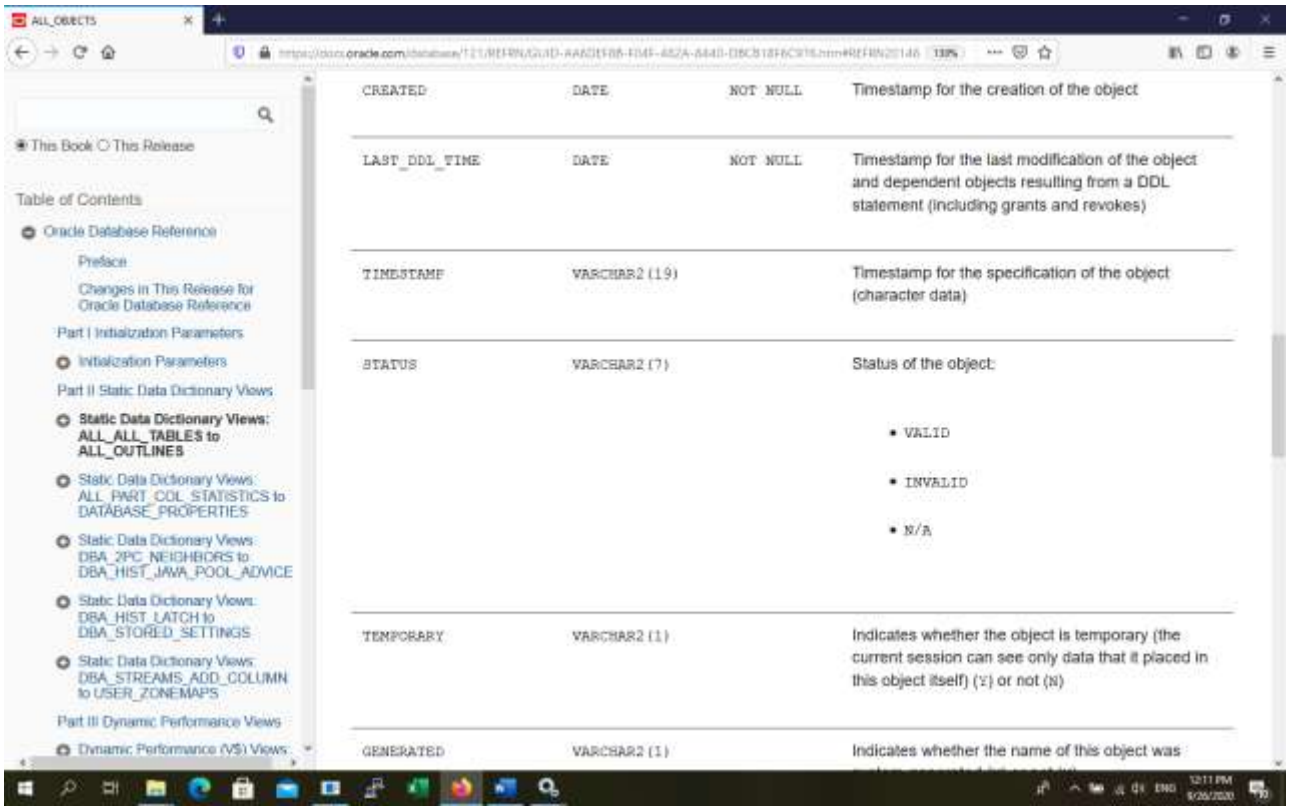
BONUS
DEPT
EMP
SALGRADE

3) Vizualizare obiecte create de un user:

SQL> desc user_objects

Name	Null?	Type
OBJECT_NAME		VARCHAR2(128)
SUBOBJECT_NAME		VARCHAR2(30)
OBJECT_ID		NUMBER
DATA_OBJECT_ID		NUMBER
OBJECT_TYPE		VARCHAR2(18)
CREATED		DATE
LAST_DDL_TIME		DATE
TIMESTAMP		VARCHAR2(19)
STATUS		VARCHAR2(7)
TEMPORARY		VARCHAR2(1)
GENERATED		VARCHAR2(1)
SECONDARY		VARCHAR2(1)





SQL> select object_name from user_objects where object_name like ’TABLE’;

OBJECT_NAME

BONUS
DEPT
EMP
SALGRADE

SQL> select object_name, object_type from user_objects;

OBJECT_NAME	OBJECT_NAME
BONUS	TABLE
DEPT	TABLE
DEPTNO_PK	INDEX
EMP	TABLE
SALGRADE	TABLE
V_SAL	VIEW

4) Adaugarea unei constrangeri de integritate pe o tabela:

SQL> alter table dept add constraint deptno_pk primary key (deptno);

Table altered.

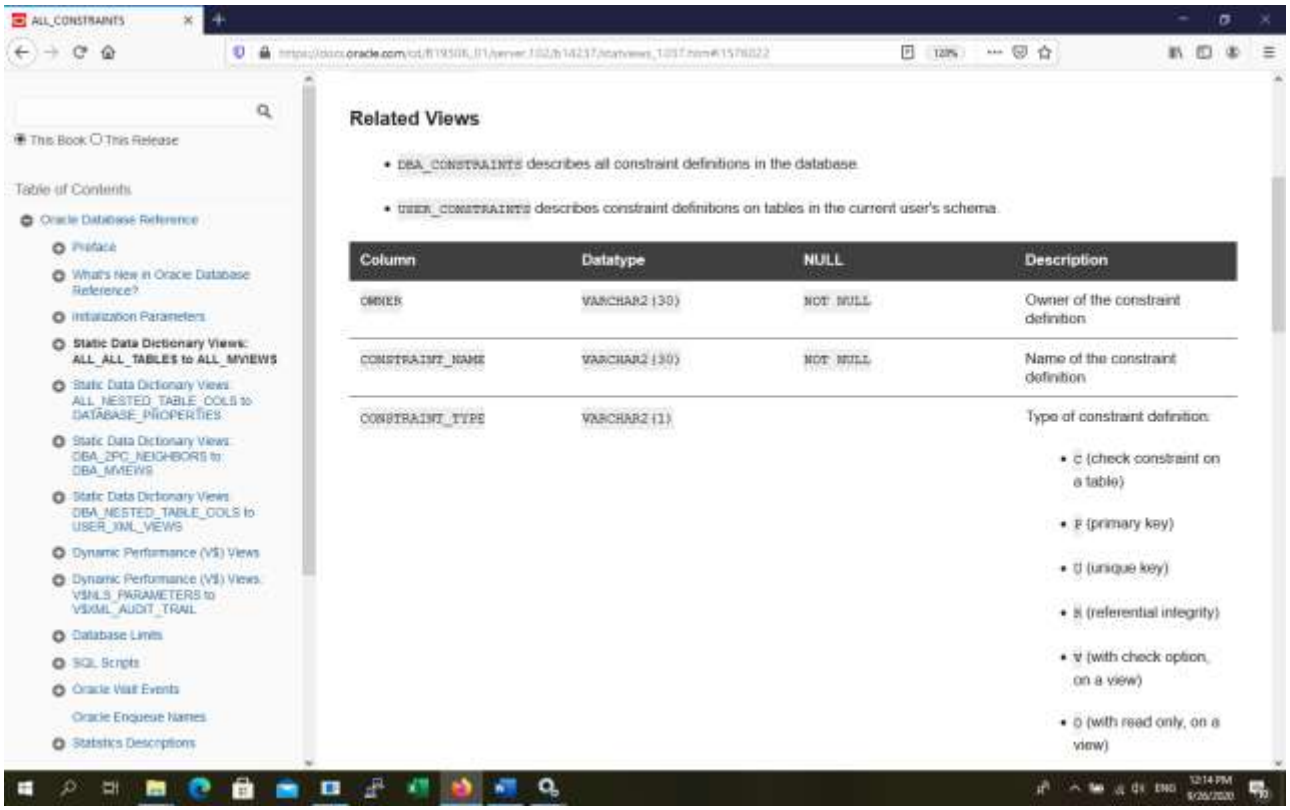
SQL> alter table emp add constraint emp_fk foreign key (deptno) references dept(deptno);

Table altered.

5) Vizualizare toate constrangerile de integritate create de userul curent

SQL> desc user_constraints

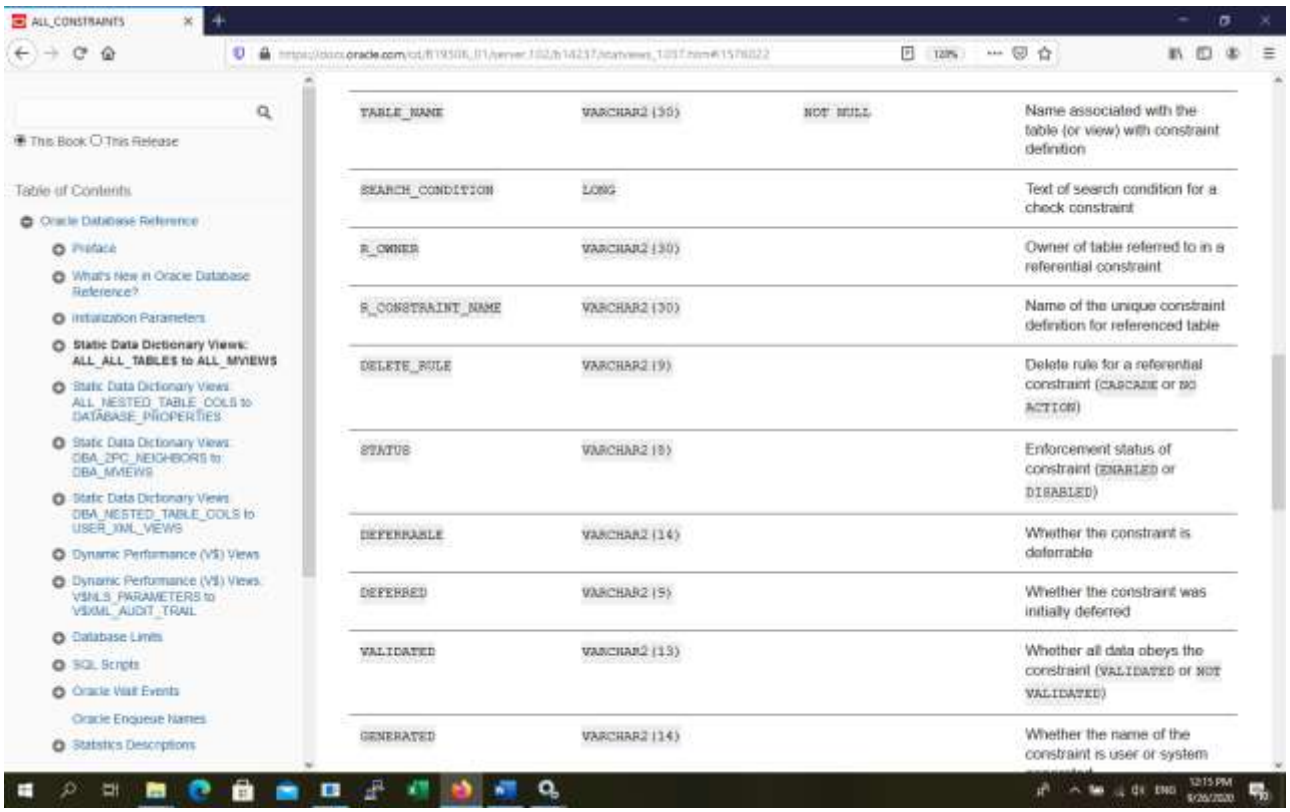
Name	Null?	Type
OWNER	NOT NULL	VARCHAR2(30)
CONSTRAINT_NAME	NOT NULL	VARCHAR2(30)
CONSTRAINT_TYPE		VARCHAR2(1)
TABLE_NAME	NOT NULL	VARCHAR2(30)
SEARCH_CONDITION		LONG
R_OWNER		VARCHAR2(30)
R_CONSTRAINT_NAME		VARCHAR2(30)
DELETE_RULE		VARCHAR2(9)
STATUS		VARCHAR2(8)
DEFERRABLE		VARCHAR2(14)
DEFERRED		VARCHAR2(9)
VALIDATED		VARCHAR2(13)
GENERATED		VARCHAR2(14)
BAD		VARCHAR2(3)
RELY		VARCHAR2(4)
LAST_CHANGE		DATE
INDEX_OWNER		VARCHAR2(30)
INDEX_NAME		VARCHAR2(30)
INVALID		VARCHAR2(7)
VIEW_RELATED		VARCHAR2(14)



Related Views

- `DBA_CONSTRAINTS` describes all constraint definitions in the database.
- `USER_CONSTRAINTS` describes constraint definitions on tables in the current user's schema.

Column	Datatype	NULL	Description
`OWNER`	`VARCHAR2 (30)`	`NOT NULL`	Owner of the constraint definition
`CONSTRAINT_NAME`	`VARCHAR2 (30)`	`NOT NULL`	Name of the constraint definition
`CONSTRAINT_TYPE`	`VARCHAR2 (1)`		Type of constraint definition: • `C` (check constraint on a table) • `P` (primary key) • `U` (unique key) • `R` (referential integrity) • `V` (with check option, on a view) • `O` (with read only, on a view)



`TABLE_NAME`	`VARCHAR2 (30)`	`NOT NULL`	Name associated with the table (or view) with constraint definition
`SEARCH_CONDITION`	`LONG`		Text of search condition for a check constraint
`R_OWNER`	`VARCHAR2 (30)`		Owner of table referred to in a referential constraint
`R_CONSTRAINT_NAME`	`VARCHAR2 (30)`		Name of the unique constraint definition for referenced table
`DELETE_RULE`	`VARCHAR2 (9)`		Delete rule for a referential constraint (`CASCADE` or `NO ACTION`)
`STATUS`	`VARCHAR2 (8)`		Enforcement status of constraint (`ENABLED` or `DISABLED`)
`DEFERRABLE`	`VARCHAR2 (14)`		Whether the constraint is deferrable
`DEFERRED`	`VARCHAR2 (9)`		Whether the constraint was initially deferred
`VALIDATED`	`VARCHAR2 (13)`		Whether all data obeys the constraint (`VALIDATED` or `NOT VALIDATED`)
`GENERATED`	`VARCHAR2 (14)`		Whether the name of the constraint is user or system

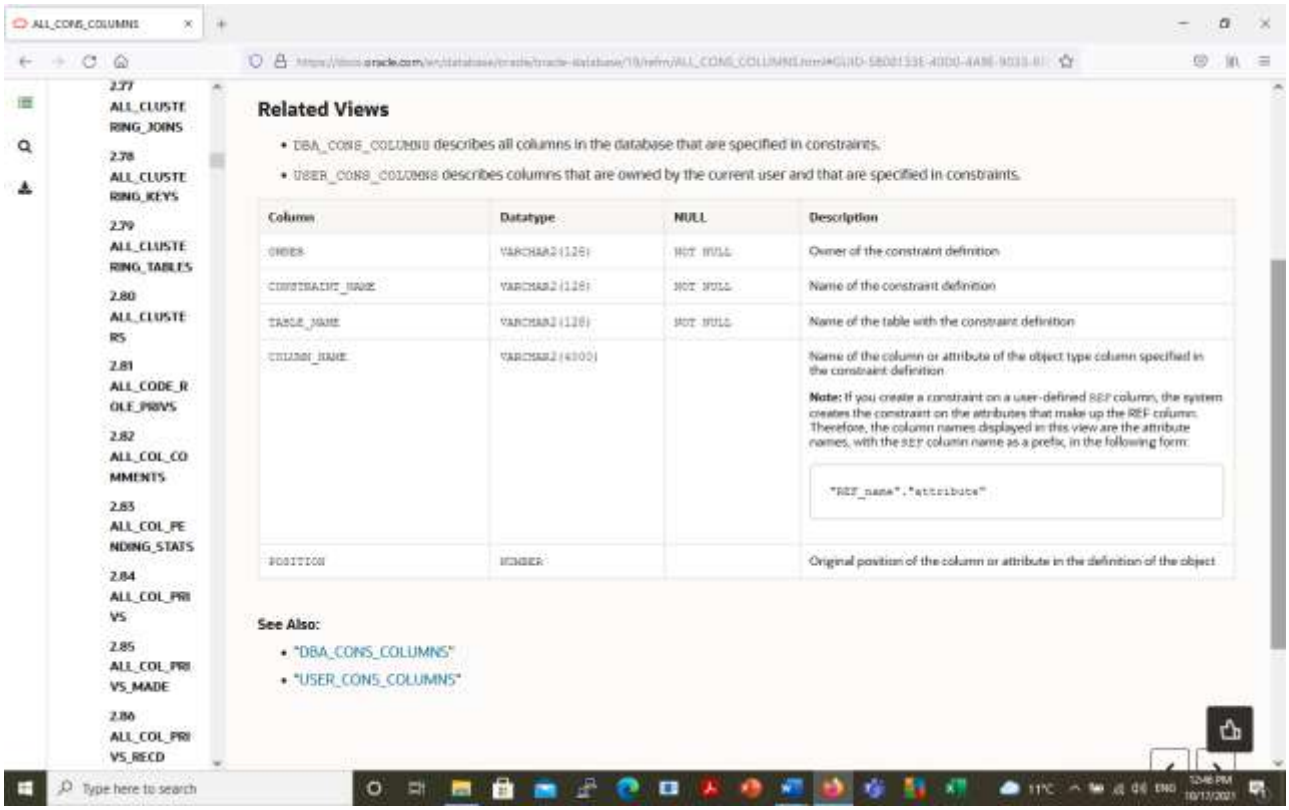
SQL> select owner,constraint_name,constraint_type, table_name from user_constraints;

OWNER	CONSTRAINT_NAME	C	TABLE_NAME
UBD1	DEPTNO_PK	P	DEPT
UBD1	EMP_FK	R	EMP

6) Vizualizarea constrangerilor de integritate create de userul curent si a coloanelor pe care sunt definite:

SQL> desc user_cons_columns

Name	Null?	Type
OWNER	NOT NULL	VARCHAR2(128)
CONSTRAINT_NAME	NOT NULL	VARCHAR2(128)
TABLE_NAME	NOT NULL	VARCHAR2(128)
COLUMN_NAME		VARCHAR2(4000)
POSITION		NUMBER



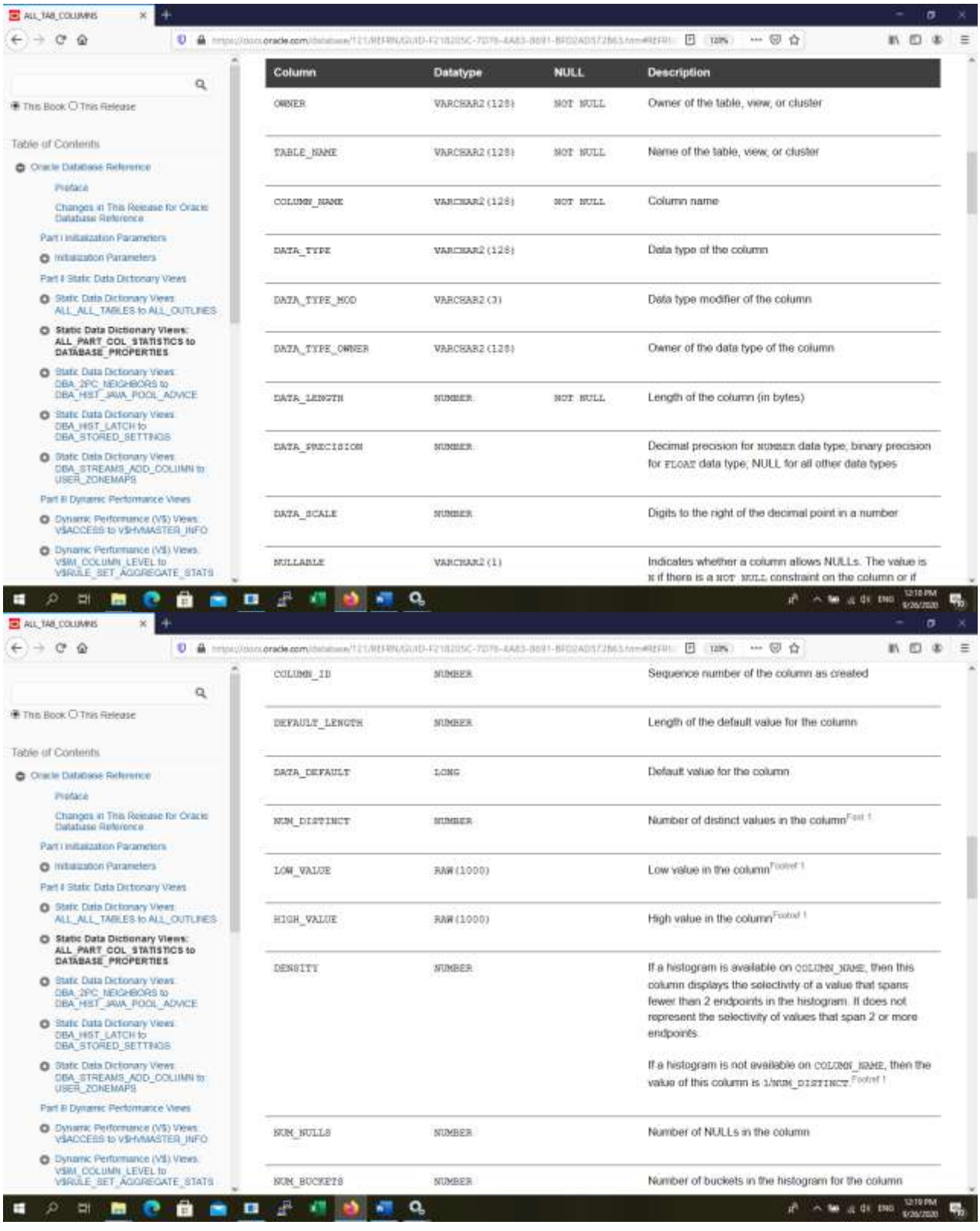
SQL> SELECT constraint_name,table_name, column_name
FROM user_cons_columns;

CONSTRAINT_NAME	TABLE_NAME	COLUMN_NAME
PK_DEPT	DEPT	DEPTNO
PK_EMP	EMP	EMPNO
FK_DEPTNO	EMP	DEPTNO
SYS_C0012685	ANGAJATI	ID_ANG

7) Vizualizare structura tabelara

SQL> desc user_tab_columns

Name	Null?	Type
TABLE_NAME	NOT NULL	VARCHAR2(30)
COLUMN_NAME	NOT NULL	VARCHAR2(30)
DATA_TYPE		VARCHAR2(106)
DATA_TYPE_MOD		VARCHAR2(3)
DATA_TYPE_OWNER		VARCHAR2(30)
DATA_LENGTH	NOT NULL	NUMBER
DATA_PRECISION		NUMBER
DATA_SCALE		NUMBER
NULLABLE		VARCHAR2(1)
COLUMN_ID		NUMBER
DEFAULT_LENGTH		NUMBER
DATA_DEFAULT		LONG
NUM_DISTINCT		NUMBER
LOW_VALUE		RAW(32)
HIGH_VALUE		RAW(32)
DENSITY		NUMBER
NUM_NULLS		NUMBER
NUM_BUCKETS		NUMBER
LAST_ANALYZED		DATE
SAMPLE_SIZE		NUMBER
CHARACTER_SET_NAME		VARCHAR2(44)
CHAR_COL_DECL_LENGTH		NUMBER
GLOBAL_STATS		VARCHAR2(3)
USER_STATS		VARCHAR2(3)
AVG_COL_LEN		NUMBER
CHAR_LENGTH		NUMBER
CHAR_USED		VARCHAR2(1)
V80_FMT_IMAGE		VARCHAR2(3)
DATA_UPGRADED		VARCHAR2(3)



Column	Datatype	NULL	Description
OWNER	VARCHAR2(128)	NOT NULL	Owner of the table, view, or cluster
TABLE_NAME	VARCHAR2(128)	NOT NULL	Name of the table, view, or cluster
COLUMN_NAME	VARCHAR2(128)	NOT NULL	Column name
DATA_TYPE	VARCHAR2(128)		Data type of the column
DATA_TYPE_MOD	VARCHAR2(3)		Data type modifier of the column
DATA_TYPE_OWNER	VARCHAR2(128)		Owner of the data type of the column
DATA_LENGTH	NUMBER	NOT NULL	Length of the column (in bytes)
DATA_PRECISION	NUMBER		Decimal precision for NUMBER data type; binary precision for FLOAT data type; NULL for all other data types
DATA_SCALE	NUMBER		Digits to the right of the decimal point in a number
NULLABLE	VARCHAR2(1)		Indicates whether a column allows NULLs. The value is N if there is a NOT NULL constraint on the column or if
COLUMN_ID	NUMBER		Sequence number of the column as created
DEFAULT_LENGTH	NUMBER		Length of the default value for the column
DATA_DEFAULT	LONG		Default value for the column
NUM_DISTINCT	NUMBER		Number of distinct values in the column[Footnote 1]
LOW_VALUE	RAW(1000)		Low value in the column[Footnote 1]
HIGH_VALUE	RAW(1000)		High value in the column[Footnote 1]
DENSITY	NUMBER		If a histogram is available on COLUMN_NAME, then this column displays the selectivity of a value that spans fewer than 2 endpoints in the histogram. If does not represent the selectivity of values that span 2 or more endpoints. If a histogram is not available on COLUMN_NAME, then the value of this column is 1/NUM_DISTINCT.[Footnote 1]
NUM_NULLS	NUMBER		Number of NULLs in the column
NUM_BUCKETS	NUMBER		Number of buckets in the histogram for the column

SQL> select table_name,column_name,data_type from user_tab_columns
where table_name='EMP';

TABLE_NAME	COLUMN_NAME	DATA_TYPE
EMP	EMPNO	NUMBER
EMP	ENAME	VARCHAR2
EMP	JOB	VARCHAR2
EMP	MGR	NUMBER
EMP	HIREDATE	DATE
EMP	SAL	NUMBER
EMP	COMM	NUMBER
EMP	DEPTNO	NUMBER

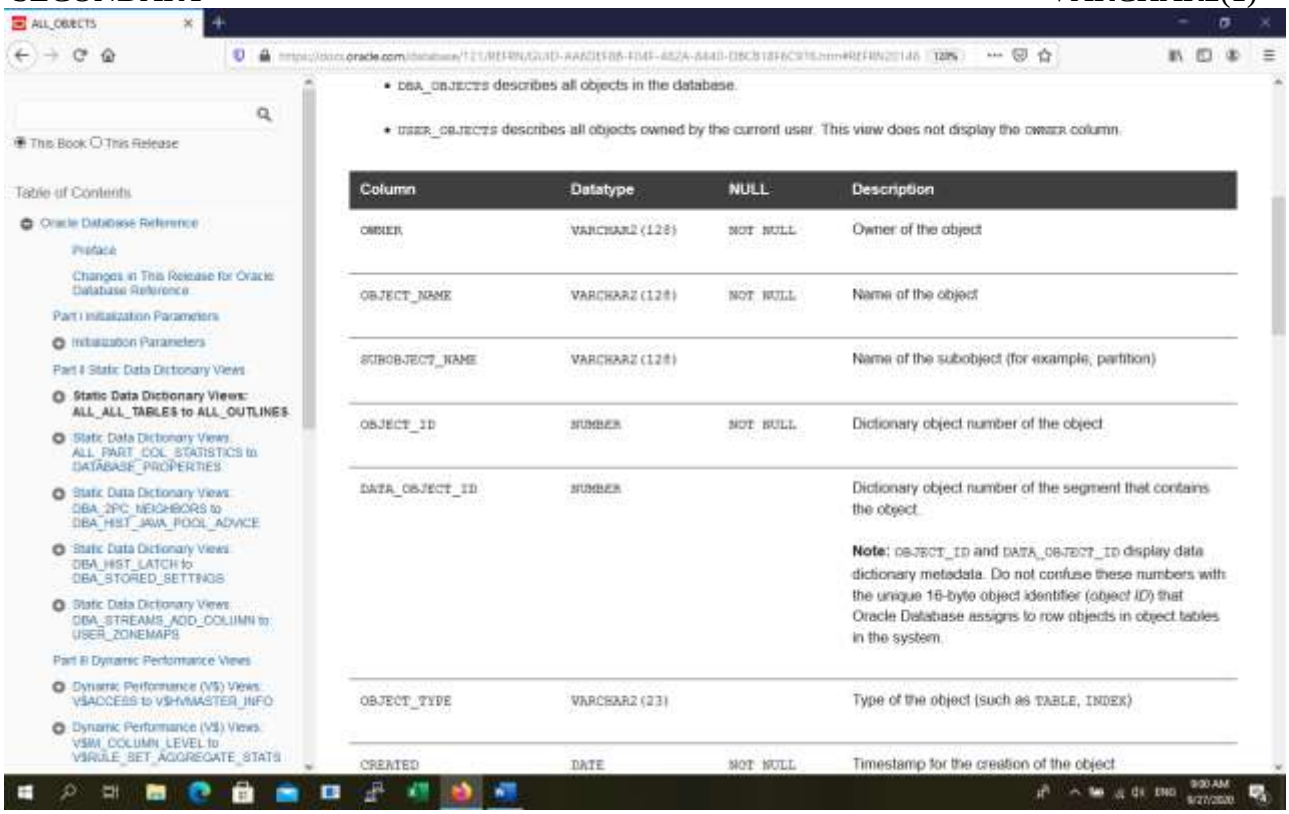
8) Tabele din dictionar care contin informatii despre obiectele proprii sau create de alti useri, la care are acces userul curent:

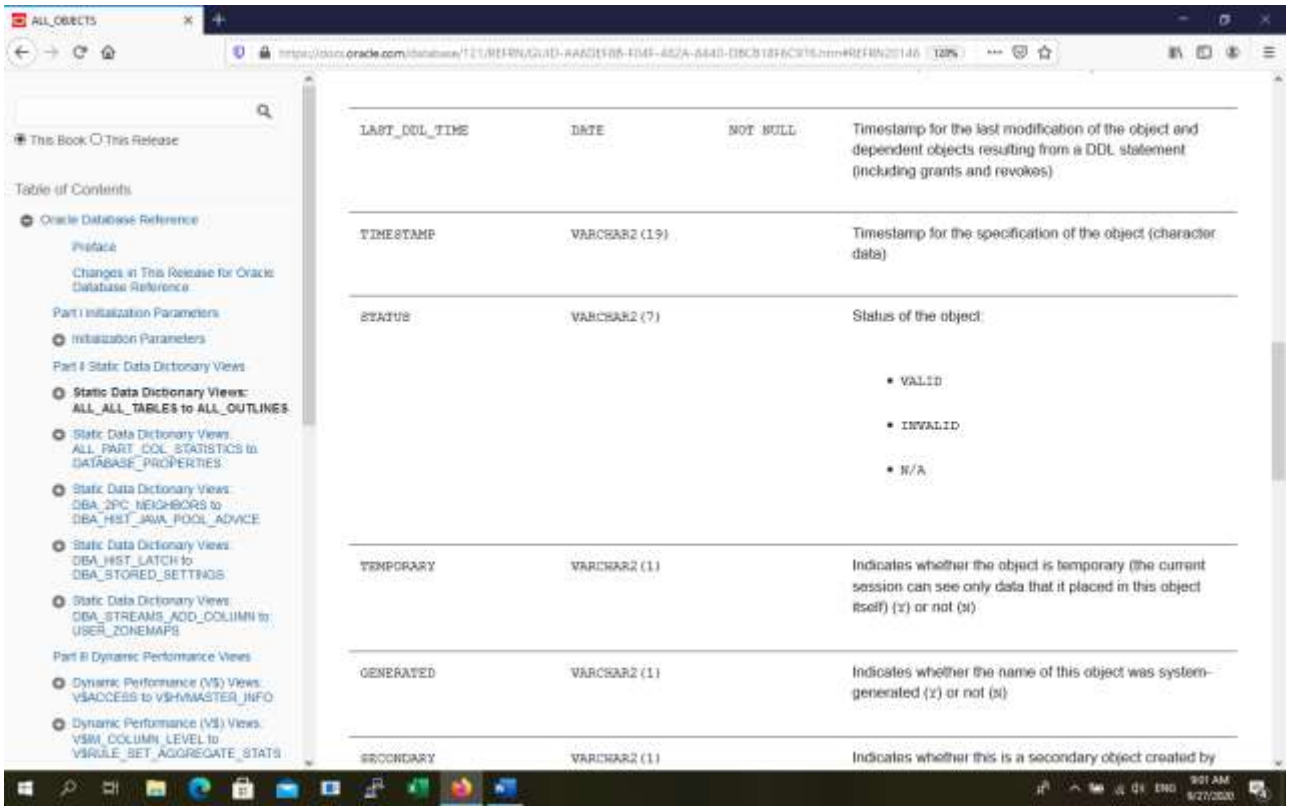
```
SQL> select table_name from dictionary where table_name like 'ALL%';

TABLE_NAME
------------------------------
ALL_XML_SCHEMAS
ALL_XML_SCHEMAS2
ALL_CATALOG
ALL_CLUSTERS
ALL_COL_COMMENTS
ALL_COL_PRIVS
ALL_COL_PRIVS_MADE
ALL_COL_PRIVS_RECD
ALL_ENCRYPTED_COLUMNS
ALL_DB_LINKS
ALL_INDEXES
ALL_IND_COLUMNS
ALL_IND_EXPRESSIONS
ALL_JOIN_IND_COLUMNS
ALL_OBJECTS
ALL_PROCEDURES
ALL_ERRORS
```

9) Vizualizare obiecte proprii sau create de alti useri la care are acces userul curent:

```
SQL> desc all_objects
 Name                                                                      Null?    Type
 ------------------------------------------------------------------------- -------- ------------
 OWNER                                                                     NOT NULL VARCHAR2(30)
 OBJECT_NAME                                                               NOT NULL VARCHAR2(30)
 SUBOBJECT_NAME                                                                     VARCHAR2(30)
 OBJECT_ID                                                                 NOT NULL NUMBER
 DATA_OBJECT_ID                                                                     NUMBER
 OBJECT_TYPE                                                                        VARCHAR2(18)
```

CREATED	NOT NULL	DATE
LAST_DDL_TIME	NOT NULL	DATE
TIMESTAMP		VARCHAR2(19)
STATUS		VARCHAR2(7)
TEMPORARY		VARCHAR2(1)
GENERATED		VARCHAR2(1)
SECONDARY		VARCHAR2(1)





SQL> select owner,object_name,object_type from all_objects where owner='SCOTT';

OWNER	OBJECT_NAME	OBJECT_TYPE
SCOTT	BONUS	TABLE
SCOTT	DEPT	TABLE
SCOTT	EMP	TABLE
SCOTT	PK_DEPT	INDEX
SCOTT	PK_EMP	INDEX
SCOTT	SALGRADE	TABLE
SCOTT	V_SAL	VIEW

10) Vizualizare toate tabelele din dictionar :

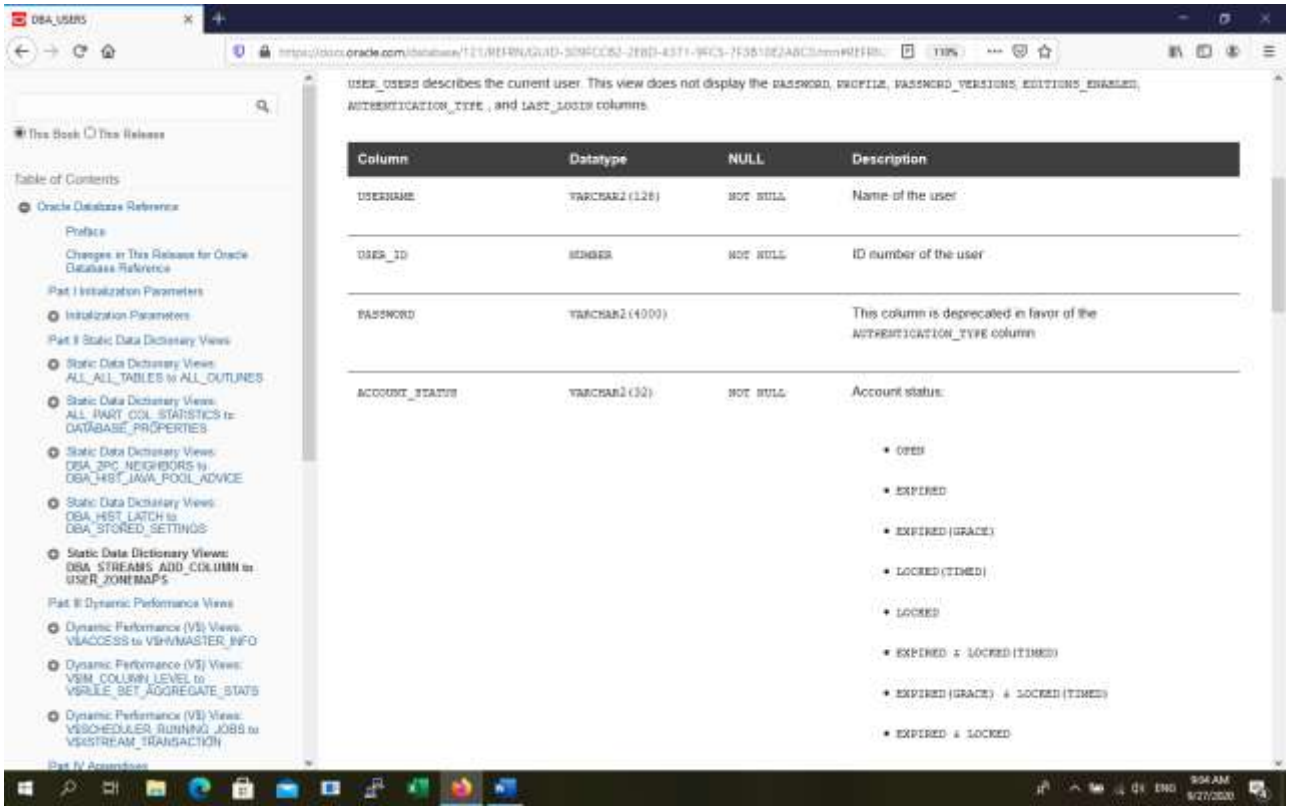
SQL> select table_name from dictionary where table_name like 'DBA%';

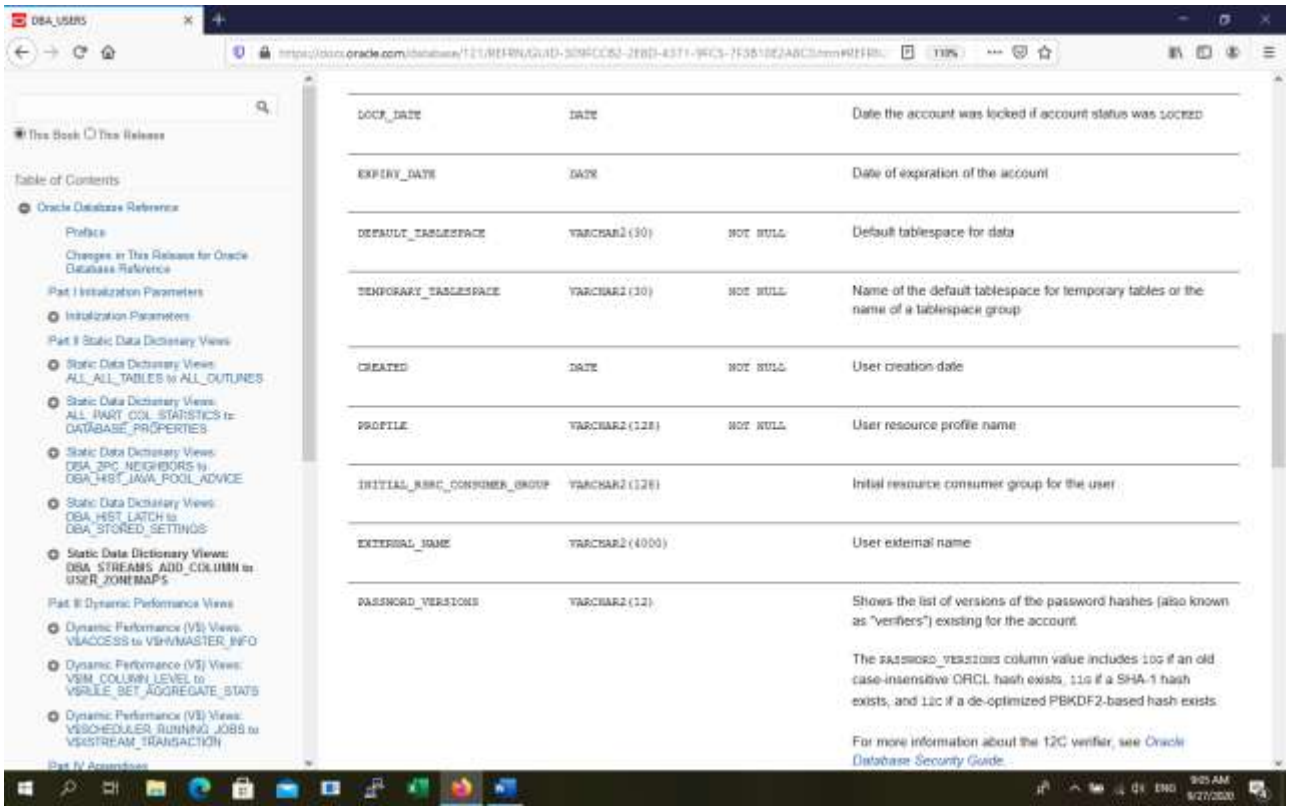
11) Vizualizare informatii despre userii creati pe baza de date

SQL> desc dba_users

Name	Null?	Type
USERNAME	NOT NULL	VARCHAR2(30)
USER_ID	NOT NULL	NUMBER
PASSWORD		VARCHAR2(30)

ACCOUNT_STATUS	NOT NULL VARCHAR2(32)
LOCK_DATE	DATE
EXPIRY_DATE	DATE
DEFAULT_TABLESPACE	NOT NULL VARCHAR2(30)
TEMPORARY_TABLESPACE	NOT NULL VARCHAR2(30)
CREATED	NOT NULL DATE
PROFILE	NOT NULL VARCHAR2(30)
INITIAL_RSRC_CONSUMER_GROUP	VARCHAR2(30)
EXTERNAL_NAME	VARCHAR2(4000)
PASSWORD_VERSIONS	VARCHAR2(12)
EDITIONS_ENABLED	VARCHAR2(1)
AUTHENTICATION_TYPE	VARCHAR2(8)
PROXY_ONLY_CONNECT	VARCHAR2(1)
COMMON	VARCHAR2(3)
LAST_LOGIN	TIMESTAMP(9) WITH TIME ZONE
ORACLE_MAINTAINED	VARCHAR2(1)





SQL> select username,password from dba_users where username='SCOTT';

USERNAME

PASSWORD

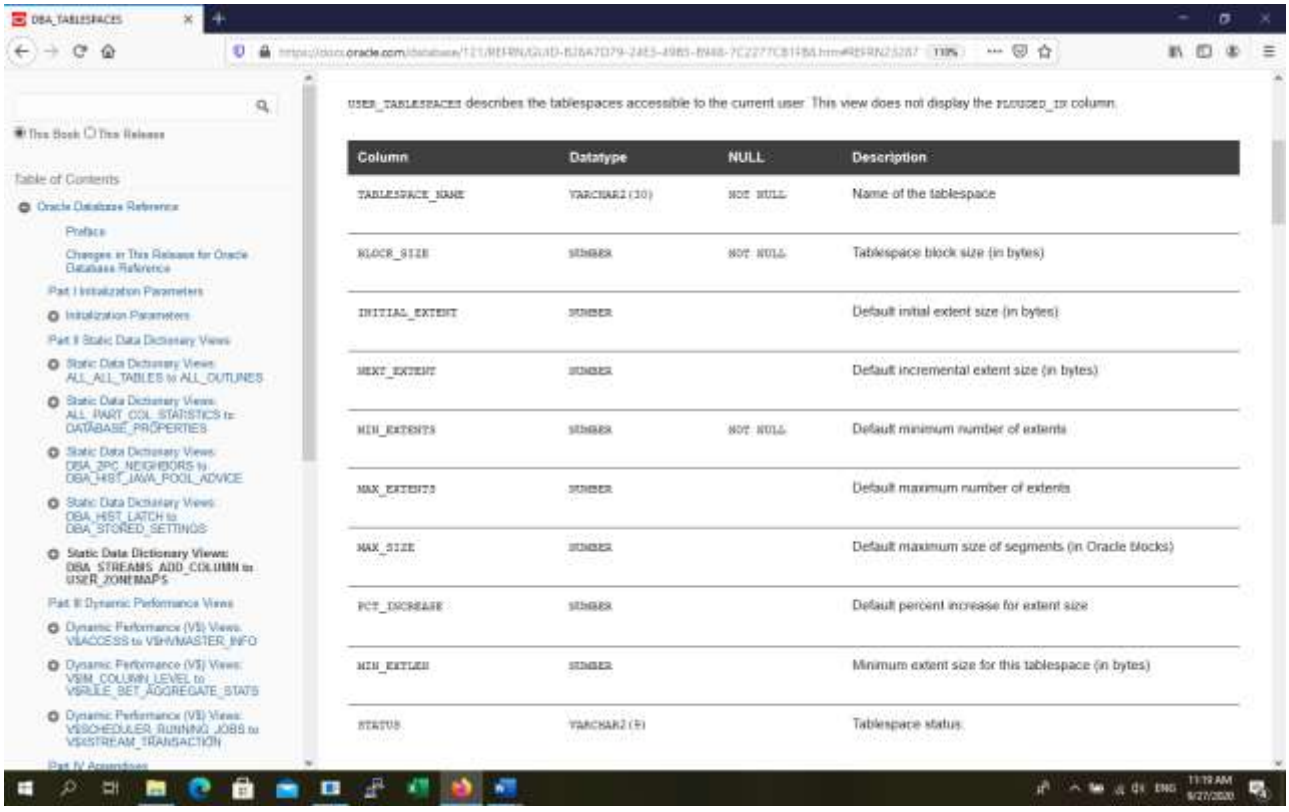
SCOTT

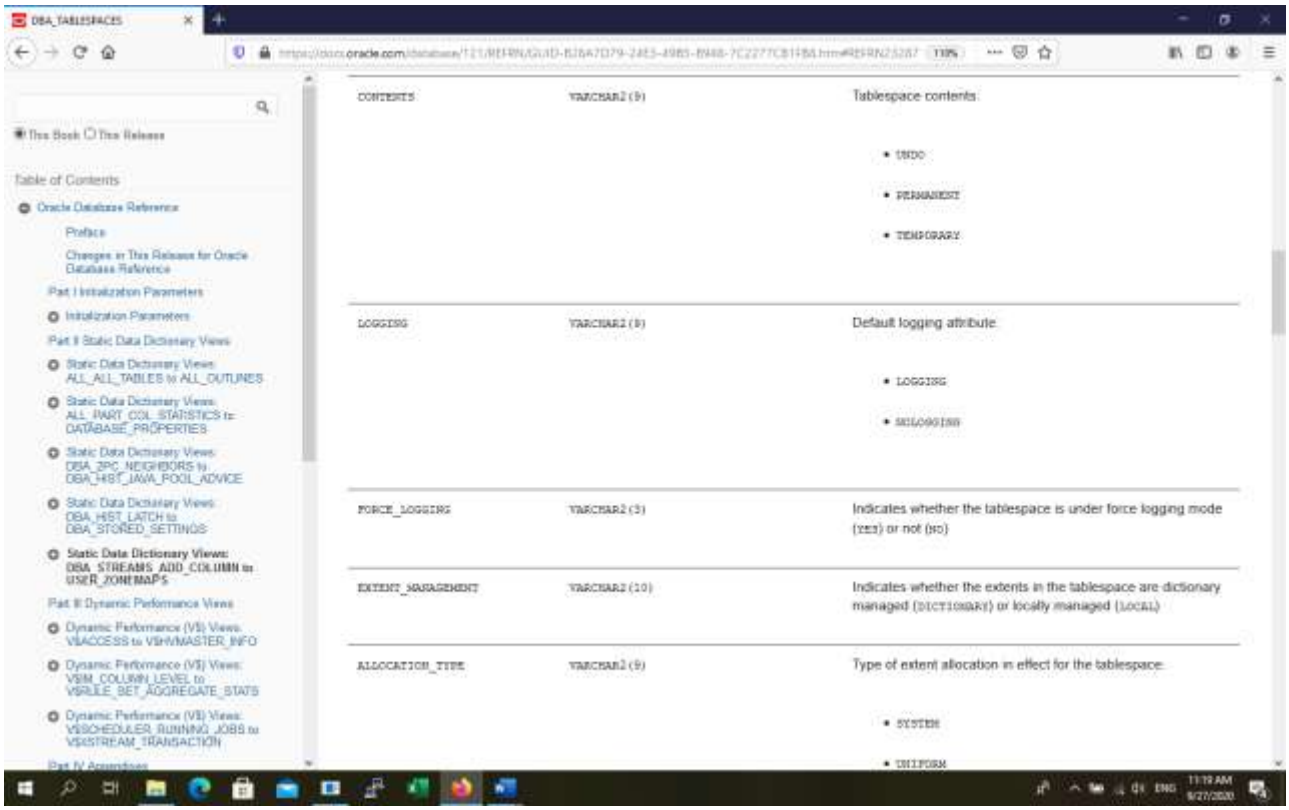
12) Vizualizare informatii despre tablespace-uri create pe baza de date

SQL> desc dba_tablespaces

Name	Null?	Type
TABLESPACE_NAME	NOT NULL	VARCHAR2(30)
BLOCK_SIZE	NOT NULL	NUMBER
INITIAL_EXTENT		NUMBER
NEXT_EXTENT		NUMBER
MIN_EXTENTS	NOT NULL	NUMBER
MAX_EXTENTS		NUMBER
PCT_INCREASE		NUMBER
MIN_EXTLEN		NUMBER
STATUS		VARCHAR2(9)
CONTENTS		VARCHAR2(9)

LOGGING	VARCHAR2(9)
FORCE_LOGGING	VARCHAR2(3)
EXTENT_MANAGEMENT	VARCHAR2(10)
ALLOCATION_TYPE	VARCHAR2(9)
PLUGGED_IN	VARCHAR2(3)
SEGMENT_SPACE_MANAGEMENT	VARCHAR2(6)
DEF_TAB_COMPRESSION	VARCHAR2(8)
RETENTION	VARCHAR2(11)
BIGFILE	VARCHAR2(3)
PREDICATE_EVALUATION	VARCHAR2(7)
ENCRYPTED	VARCHAR2(3)
COMPRESS_FOR	VARCHAR2(30)
DEF_INMEMORY	VARCHAR2(8)
DEF_INMEMORY_PRIORITY	VARCHAR2(8)
DEF_INMEMORY_DISTRIBUTE	VARCHAR2(15)
DEF_INMEMORY_COMPRESSION	VARCHAR2(17)
DEF_INMEMORY_DUPLICATE	VARCHAR2(13)





SQL> select tablespace_name,block_size,max_extents,status from dba_tablespaces;

TABLESPACE_NAME	BLOCK_SIZE	MAX_EXTENTS	STATUS
SYSTEM	8192	2147483645	ONLINE
UNDOTBS1	8192	2147483645	ONLINE
SYSAUX	8192	2147483645	ONLINE
TEMP	8192		ONLINE
USERS	8192	2147483645	ONLINE
EXAMPLE	8192	2147483645	ONLINE
BD_DATA	8192	2147483645	ONLINE
BD_TEMP	8192		ONLINE

8 rows selected.

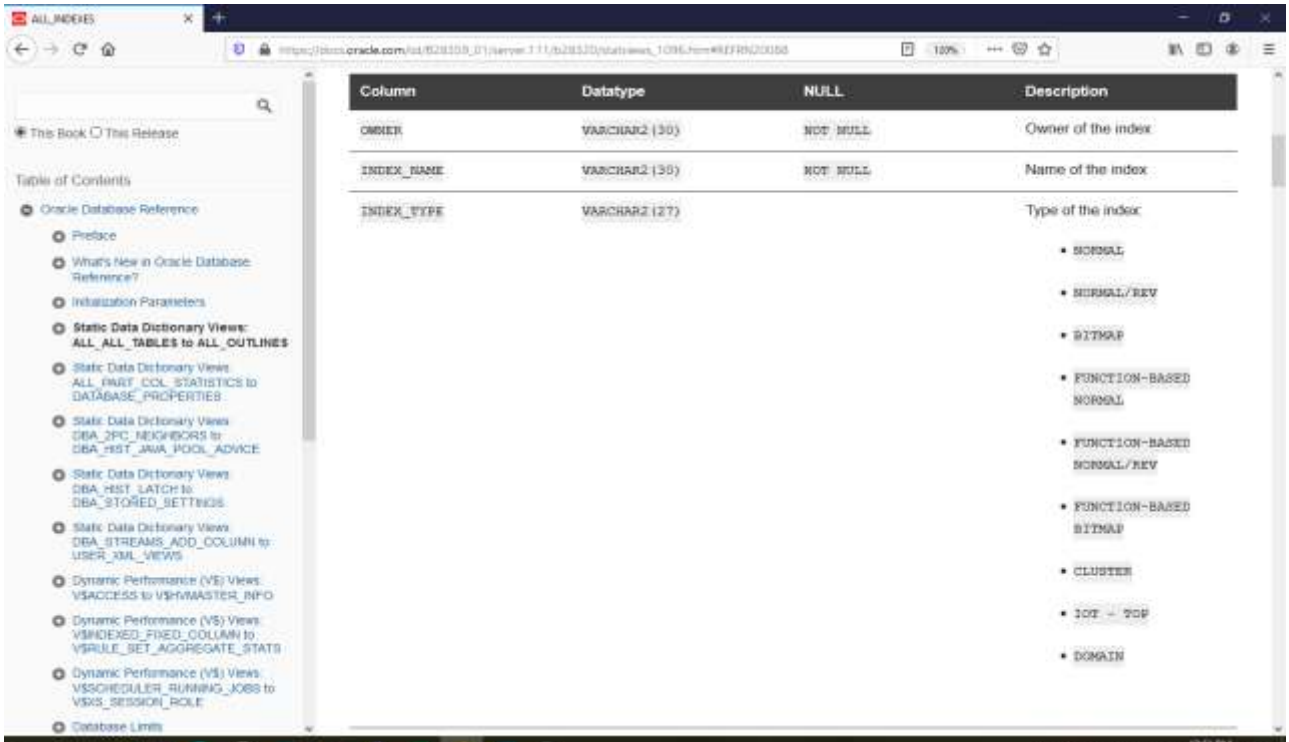
13) Vizualizare informatii despre indecsi:

SQL> desc dba_indexes

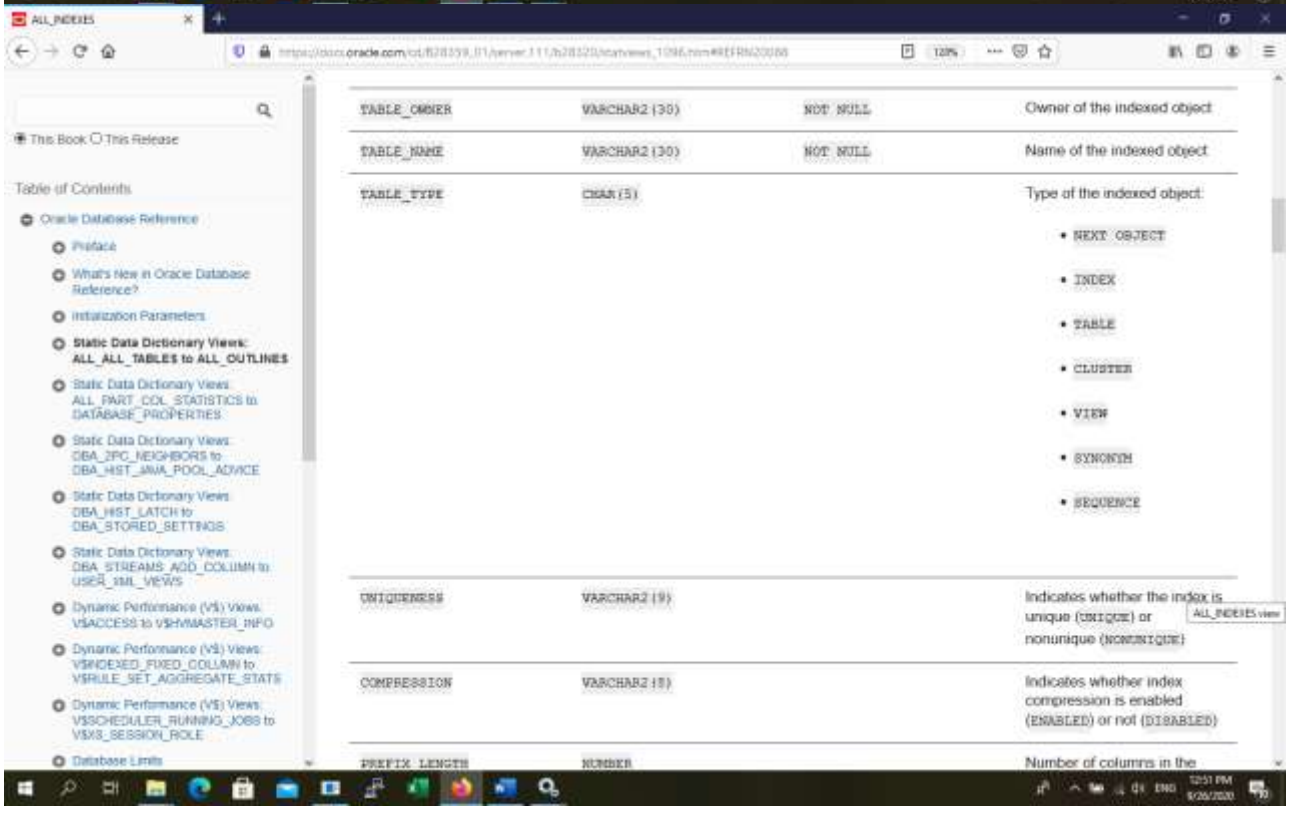
Name	Null?	Type
OWNER	NOT NULL	VARCHAR2(30)
INDEX_NAME	NOT NULL	VARCHAR2(30)
INDEX_TYPE		VARCHAR2(27)
TABLE_OWNER	NOT NULL	VARCHAR2(30)

TABLE_NAME	NOT NULL	VARCHAR2(30)
TABLE_TYPE		VARCHAR2(11)
UNIQUENESS		VARCHAR2(9)
COMPRESSION		VARCHAR2(8)
PREFIX_LENGTH		NUMBER
TABLESPACE_NAME		VARCHAR2(30)
INI_TRANS		NUMBER
MAX_TRANS		NUMBER
INITIAL_EXTENT		NUMBER
NEXT_EXTENT		NUMBER
MIN_EXTENTS		NUMBER
MAX_EXTENTS		NUMBER
PCT_INCREASE		NUMBER
PCT_THRESHOLD		NUMBER
INCLUDE_COLUMN		NUMBER
FREELISTS		NUMBER
FREELIST_GROUPS		NUMBER
PCT_FREE		NUMBER
LOGGING		VARCHAR2(3)
BLEVEL		NUMBER
LEAF_BLOCKS		NUMBER
DISTINCT_KEYS		NUMBER
AVG_LEAF_BLOCKS_PER_KEY		NUMBER
AVG_DATA_BLOCKS_PER_KEY		NUMBER
CLUSTERING_FACTOR		NUMBER
STATUS		VARCHAR2(8)
NUM_ROWS		NUMBER
SAMPLE_SIZE		NUMBER
LAST_ANALYZED		DATE
DEGREE		VARCHAR2(40)
INSTANCES		VARCHAR2(40)
PARTITIONED		VARCHAR2(3)
TEMPORARY		VARCHAR2(1)
GENERATED		VARCHAR2(1)
SECONDARY		VARCHAR2(1)
BUFFER_POOL		VARCHAR2(7)
USER_STATS		VARCHAR2(3)
DURATION		VARCHAR2(15)
PCT_DIRECT_ACCESS		NUMBER
ITYP_OWNER		VARCHAR2(30)
ITYP_NAME		VARCHAR2(30)
PARAMETERS		VARCHAR2(1000)
GLOBAL_STATS		VARCHAR2(3)
DOMIDX_STATUS		VARCHAR2(12)
DOMIDX_OPSTATUS		VARCHAR2(6)
FUNCIDX_STATUS		VARCHAR2(8)

JOIN_INDEX	VARCHAR2(3)
IOT_REDUNDANT_PKEY_ELIM	VARCHAR2(3)
DROPPED	VARCHAR2(3)



Column	Datatype	NULL	Description
OWNER	VARCHAR2 (30)	NOT NULL	Owner of the index
INDEX_NAME	VARCHAR2 (30)	NOT NULL	Name of the index
INDEX_TYPE	VARCHAR2 (27)		Type of the index: • NORMAL • NORMAL/REV • BITMAP • FUNCTION-BASED NORMAL • FUNCTION-BASED NORMAL/REV • FUNCTION-BASED BITMAP • CLUSTER • IOT - TOP • DOMAIN



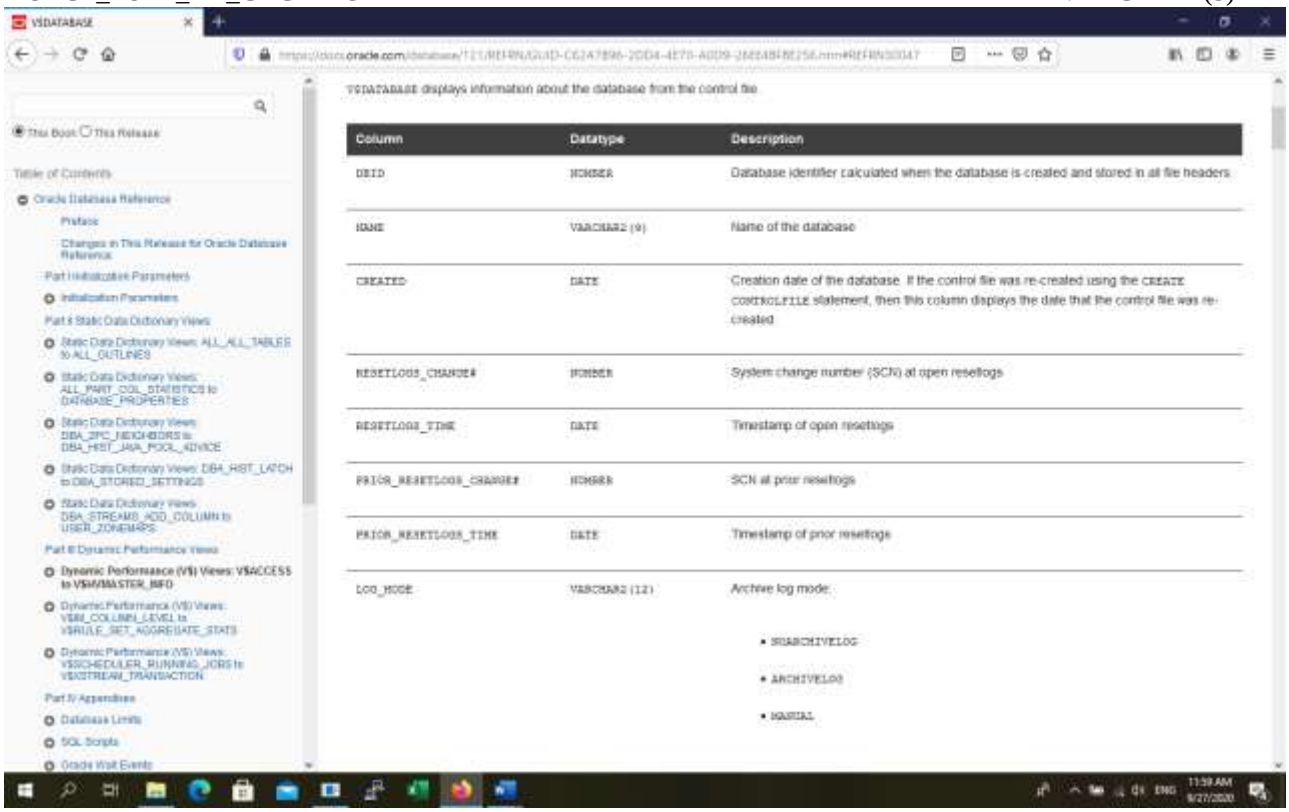
TABLE_OWNER	VARCHAR2 (30)	NOT NULL	Owner of the indexed object
TABLE_NAME	VARCHAR2 (30)	NOT NULL	Name of the indexed object
TABLE_TYPE	CHAR (5)		Type of the indexed object: • NEXT OBJECT • INDEX • TABLE • CLUSTER • VIEW • SYNONYM • SEQUENCE
UNIQUENESS	VARCHAR2 (9)		Indicates whether the index is unique (UNIQUE) or nonunique (NONUNIQUE)
COMPRESSION	VARCHAR2 (8)		Indicates whether index compression is enabled (ENABLED) or not (DISABLED)
PREFIX_LENGTH	NUMBER		Number of columns in the

```
SQL>  select owner,index_name,index_type,table_name from dba_indexes
        where owner in ('SCOTT');

OWNER                          INDEX_NAME                     INDEX_TYPE                TABLE_NAME
------------------------------ ------------------------------ --------------------------- ----------
SCOTT                          STI_PK                         NORMAL                     STUDENTI
SCOTT                          CAG_PK                         NORMAL                     CATALOG
SCOTT                          DIE_PK                         NORMAL                     DISCIPLINE
SCOTT                          PK_DEPT                        NORMAL                     DEPT
SCOTT                          PK_EMP                         NORMAL                     EMP

SQL> select index_name,index_type,table_name from user_indexes;
```

14) Vizualizare informatii despre baza de date:

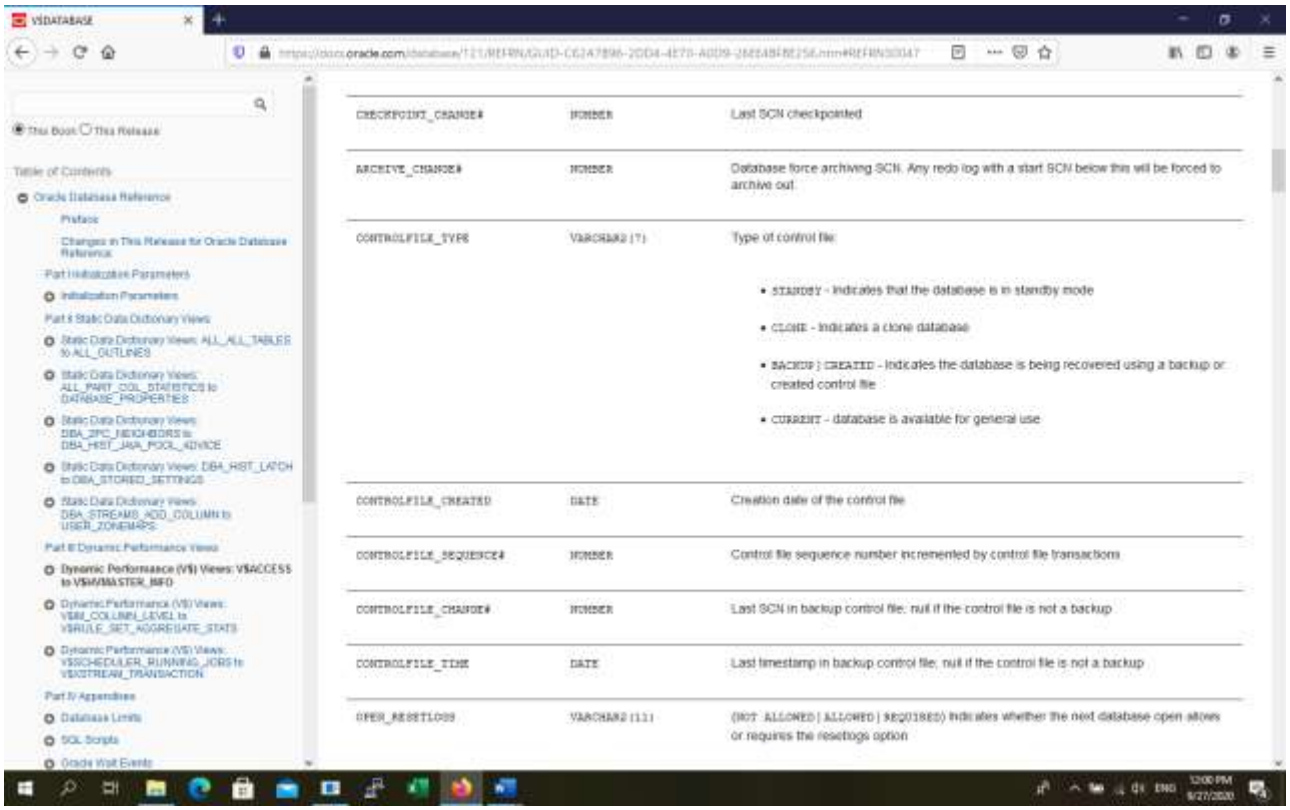
```
SQL> desc v$database
 Name                                      Null?                    Type
 ----------------------------------------- -------- ----------------------------------------------
 DBID                                                               NUMBER
 NAME                                                               VARCHAR2(9)
 CREATED                                                            DATE
 RESETLOGS_CHANGE#                                                  NUMBER
 RESETLOGS_TIME                                                     DATE
 PRIOR_RESETLOGS_CHANGE#                                            NUMBER
 PRIOR_RESETLOGS_TIME                                               DATE
 LOG_MODE                                                           VARCHAR2(12)
 CHECKPOINT_CHANGE#                                                 NUMBER
 ARCHIVE_CHANGE#                                                    NUMBER
 CONTROLFILE_TYPE                                                   VARCHAR2(7)
 CONTROLFILE_CREATED                                                DATE
 CONTROLFILE_SEQUENCE#                                              NUMBER
 CONTROLFILE_CHANGE#                                                NUMBER
 CONTROLFILE_TIME                                                   DATE
 OPEN_RESETLOGS                                                     VARCHAR2(11)
 VERSION_TIME                                                       DATE
 OPEN_MODE                                                          VARCHAR2(20)
 PROTECTION_MODE                                                    VARCHAR2(20)
 PROTECTION_LEVEL                                                   VARCHAR2(20)
 REMOTE_ARCHIVE                                                     VARCHAR2(8)
 ACTIVATION#                                                        NUMBER
 SWITCHOVER#                                                        NUMBER
 DATABASE_ROLE                                                      VARCHAR2(16)
 ARCHIVELOG_CHANGE#                                                 NUMBER
 ARCHIVELOG_COMPRESSION                                             VARCHAR2(8)
 SWITCHOVER_STATUS                                                  VARCHAR2(20)
 DATAGUARD_BROKER                                                   VARCHAR2(8)
 GUARD_STATUS                                                       VARCHAR2(7)
 SUPPLEMENTAL_LOG_DATA_MIN                                          VARCHAR2(8)
 SUPPLEMENTAL_LOG_DATA_PK                                           VARCHAR2(3)
 SUPPLEMENTAL_LOG_DATA_UI                                           VARCHAR2(3)
 FORCE_LOGGING                                                      VARCHAR2(39)
```

PLATFORM_ID	NUMBER
PLATFORM_NAME	VARCHAR2(101)
RECOVERY_TARGET_INCARNATION#	NUMBER
LAST_OPEN_INCARNATION#	NUMBER
CURRENT_SCN	NUMBER
FLASHBACK_ON	VARCHAR2(18)
SUPPLEMENTAL_LOG_DATA_FK	VARCHAR2(3)
SUPPLEMENTAL_LOG_DATA_ALL	VARCHAR2(3)
DB_UNIQUE_NAME	VARCHAR2(30)
STANDBY_BECAME_PRIMARY_SCN	NUMBER
FS_FAILOVER_STATUS	VARCHAR2(22)
FS_FAILOVER_CURRENT_TARGET	VARCHAR2(30)
FS_FAILOVER_THRESHOLD	NUMBER
FS_FAILOVER_OBSERVER_PRESENT	VARCHAR2(7)
FS_FAILOVER_OBSERVER_HOST	VARCHAR2(512)
CONTROLFILE_CONVERTED	VARCHAR2(3)
PRIMARY_DB_UNIQUE_NAME	VARCHAR2(30)
SUPPLEMENTAL_LOG_DATA_PL	VARCHAR2(3)
MIN_REQUIRED_CAPTURE_CHANGE#	NUMBER
CDB	VARCHAR2(3)
CON_ID	NUMBER
PENDING_ROLE_CHANGE_TASKS	VARCHAR2(512)
CON_DBID	NUMBER
FORCE_FULL_DB_CACHING	VARCHAR2(3)

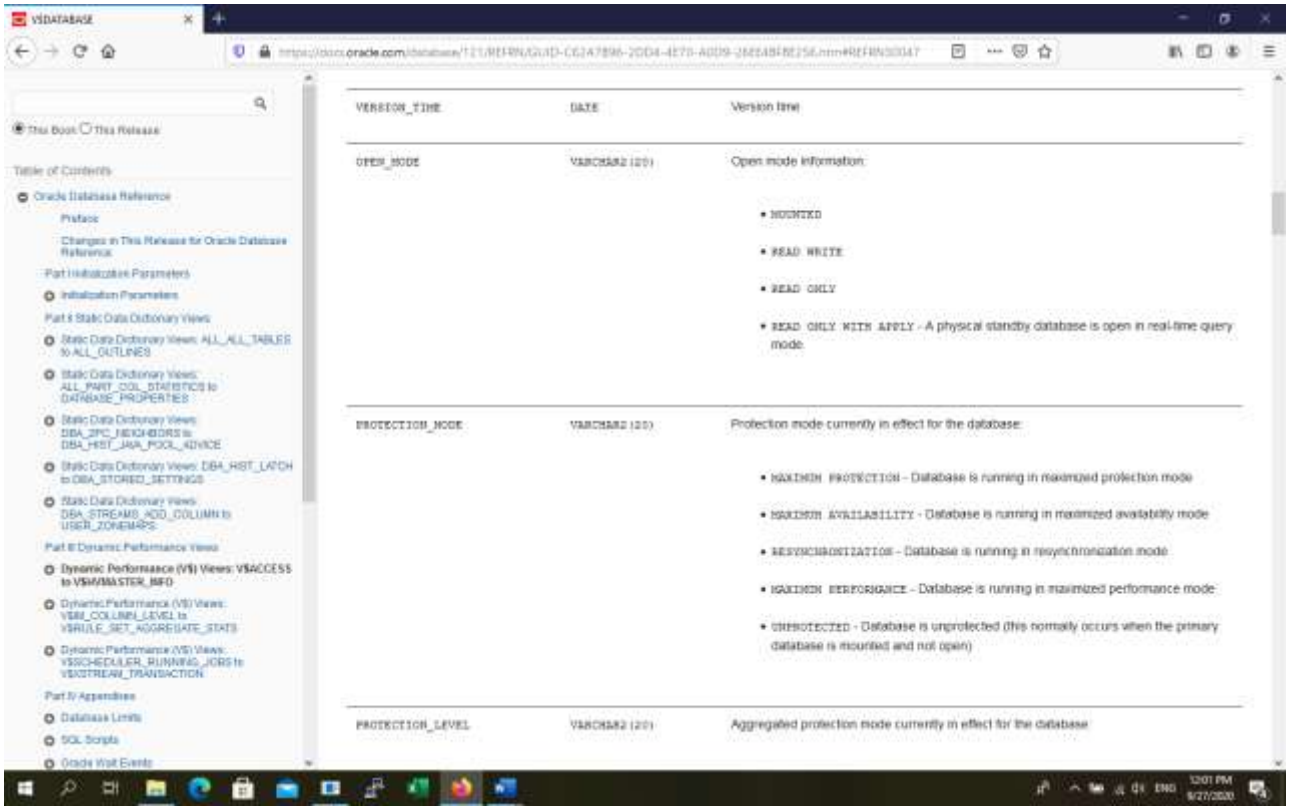


V$DATABASE displays information about the database from the control file.

Column	Datatype	Description
DBID	NUMBER	Database identifier calculated when the database is created and stored in all file headers
NAME	VARCHAR2 (9)	Name of the database
CREATED	DATE	Creation date of the database. If the control file was re-created using the CREATE CONTROLFILE statement, then this column displays the date that the control file was re-created
RESETLOGS_CHANGE#	NUMBER	System change number (SCN) at open resetlogs
RESETLOGS_TIME	DATE	Timestamp of open resetlogs
PRIOR_RESETLOGS_CHANGE#	NUMBER	SCN at prior resetlogs
PRIOR_RESETLOGS_TIME	DATE	Timestamp of prior resetlogs
LOG_MODE	VARCHAR2 (12)	Archive log mode: • NOARCHIVELOG • ARCHIVELOG • MANUAL



CHECKPOINT_CHANGE#	NUMBER	Last SCN checkpointed
ARCHIVE_CHANGE#	NUMBER	Database force archiving SCN. Any redo log with a start SCN below this will be forced to archive out
CONTROLFILE_TYPE	VARCHAR2 (7)	Type of control file: • STANDBY - Indicates that the database is in standby mode • CLONE - Indicates a clone database • BACKUP | CREATED - Indicates the database is being recovered using a backup or created control file • CURRENT - database is available for general use
CONTROLFILE_CREATED	DATE	Creation date of the control file
CONTROLFILE_SEQUENCE#	NUMBER	Control file sequence number incremented by control file transactions
CONTROLFILE_CHANGE#	NUMBER	Last SCN in backup control file; null if the control file is not a backup
CONTROLFILE_TIME	DATE	Last timestamp in backup control file; null if the control file is not a backup
OPEN_RESETLOGS	VARCHAR2 (11)	(NOT ALLOWED | ALLOWED | REQUIRED) Indicates whether the next database open allows or requires the resetlogs option



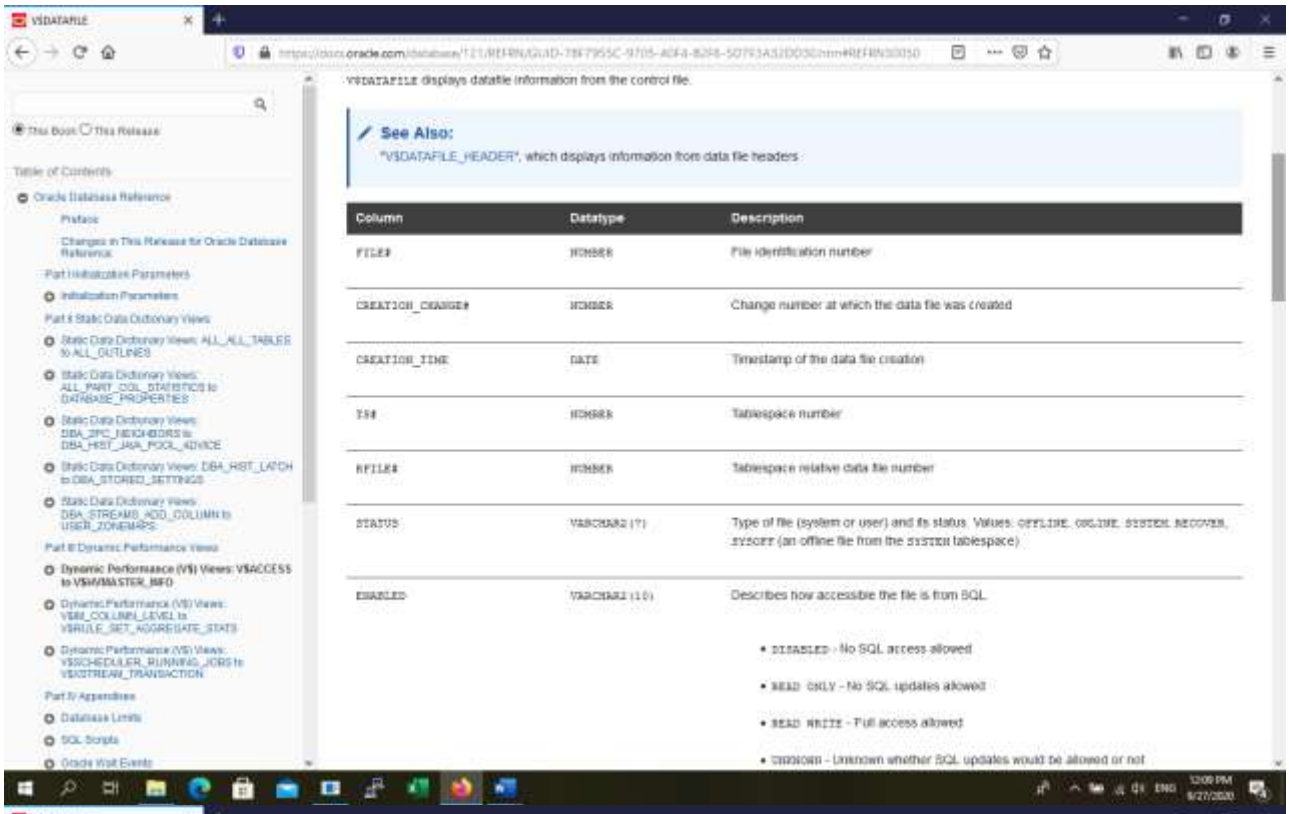
VERSION_TIME	DATE	Version time
OPEN_MODE	VARCHAR2 (20)	Open mode information: • MOUNTED • READ WRITE • READ ONLY • READ ONLY WITH APPLY - A physical standby database is open in real-time query mode
PROTECTION_MODE	VARCHAR2 (20)	Protection mode currently in effect for the database: • MAXIMUM PROTECTION - Database is running in maximized protection mode • MAXIMUM AVAILABILITY - Database is running in maximized availability mode • RESYNCHRONIZATION - Database is running in resynchronization mode • MAXIMUM PERFORMANCE - Database is running in maximized performance mode • UNPROTECTED - Database is unprotected (this normally occurs when the primary database is mounted and not open)
PROTECTION_LEVEL	VARCHAR2 (20)	Aggregated protection mode currently in effect for the database

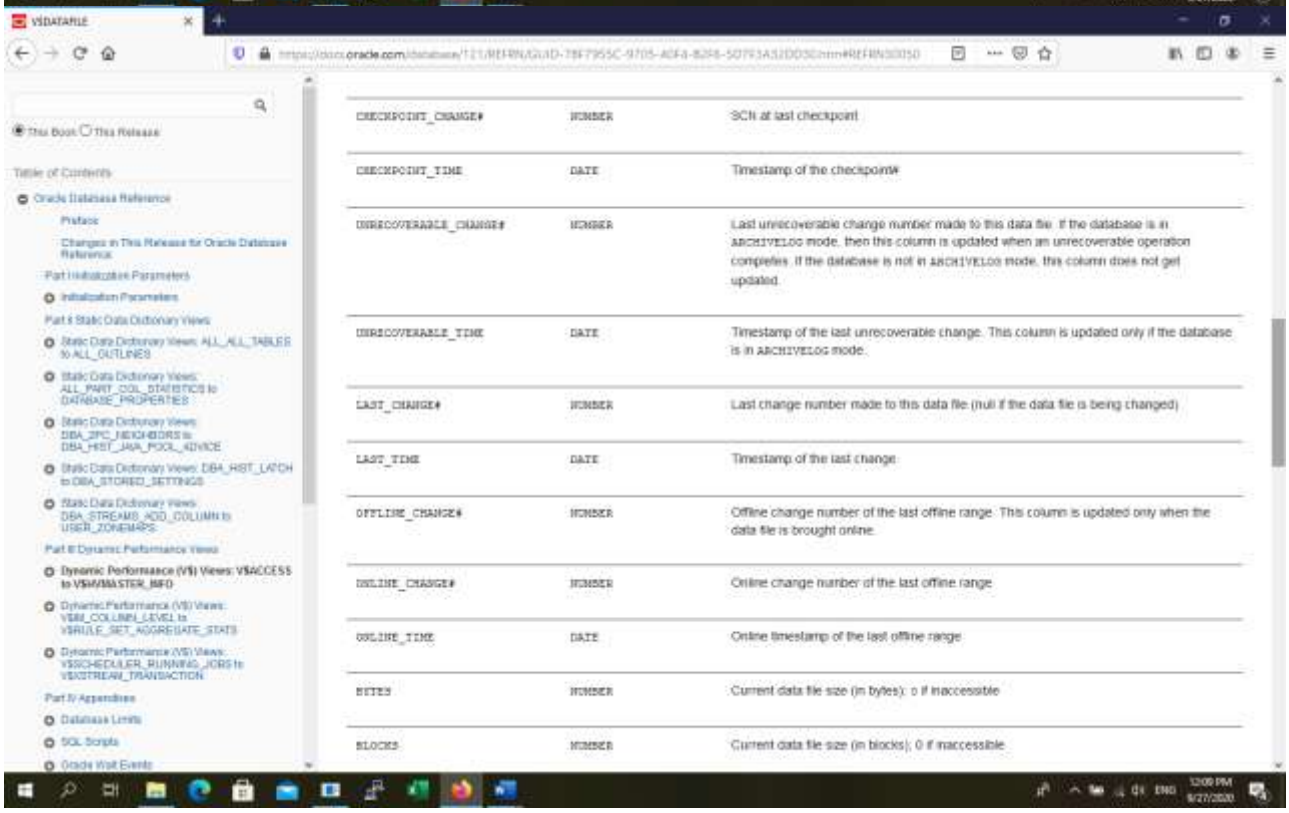
SQL> select dbid, name, created, log_mode, open_mode from v$database;

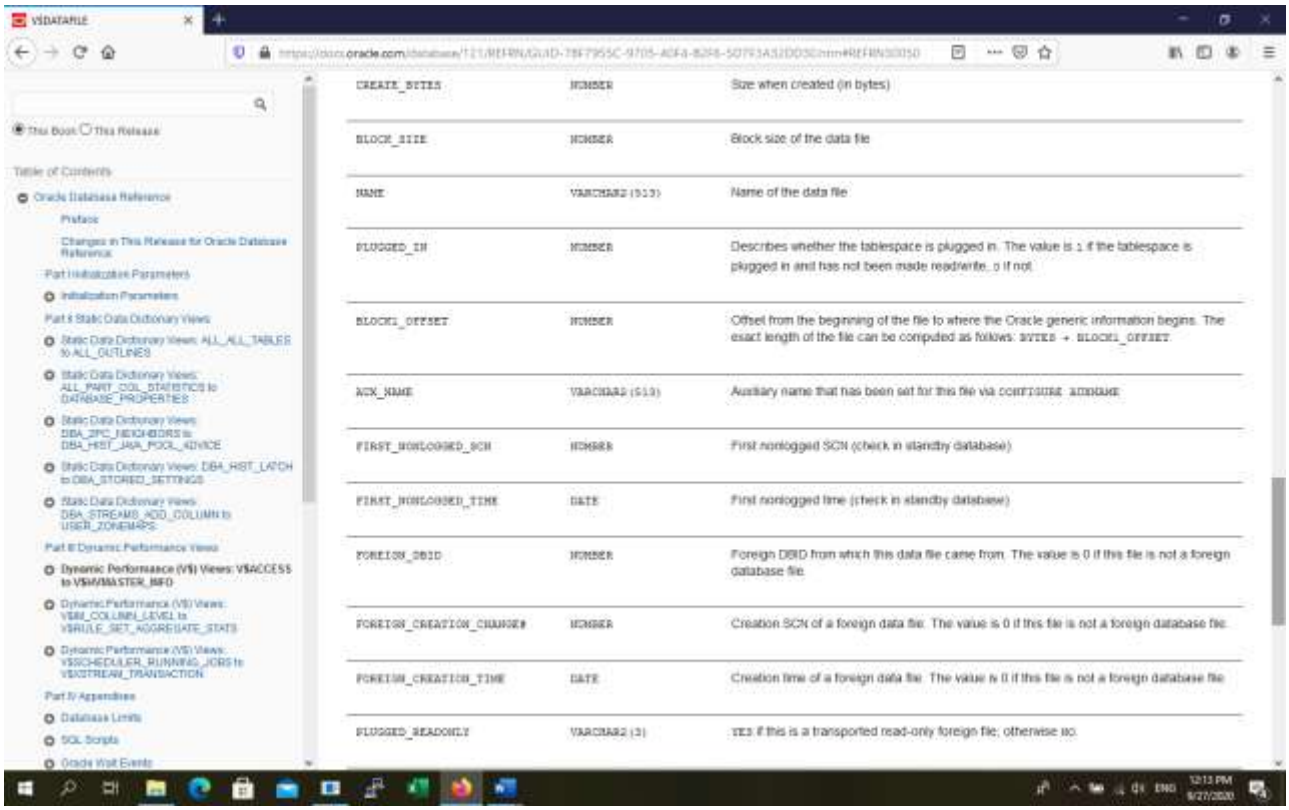
```
    DBID       NAME          CREATED    LOG_MODE          OPEN_MODE
---------- ---------      ---------  ------------      --------------------
1981261066     BD          08-MAY-19  NOARCHIVELOG      READ WRITE
```

15) Vizualizare informatii despre fisirele de date folosind view-uri dinamice:

```
SQL> desc  v$datafile
 Name                                      Null?                Type
 ----------------------------------------- --------             ------------------
 FILE#                                                          NUMBER
 CREATION_CHANGE#                                               NUMBER
 CREATION_TIME                                                  DATE
 TS#                                                            NUMBER
 RFILE#                                                         NUMBER
 STATUS                                                         VARCHAR2(7)
 ENABLED                                                        VARCHAR2(10)
 CHECKPOINT_CHANGE#                                             NUMBER
 CHECKPOINT_TIME                                                DATE
 UNRECOVERABLE_CHANGE#                                          NUMBER
 UNRECOVERABLE_TIME                                             DATE
 LAST_CHANGE#                                                   NUMBER
 LAST_TIME                                                      DATE
 OFFLINE_CHANGE#                                                NUMBER
 ONLINE_CHANGE#                                                 NUMBER
 ONLINE_TIME                                                    DATE
 BYTES                                                          NUMBER
 BLOCKS                                                         NUMBER
 CREATE_BYTES                                                   NUMBER
 BLOCK_SIZE                                                     NUMBER
 NAME                                                           VARCHAR2(513)
 PLUGGED_IN                                                     NUMBER
 BLOCK1_OFFSET                                                  NUMBER
 AUX_NAME                                                       VARCHAR2(513)
 FIRST_NONLOGGED_SCN                                            NUMBER
 FIRST_NONLOGGED_TIME                                           DATE
 FOREIGN_DBID                                                   NUMBER
 FOREIGN_CREATION_CHANGE#                                       NUMBER
 FOREIGN_CREATION_TIME                                          DATE
 PLUGGED_READONLY                                               VARCHAR2(3)
 PLUGIN_CHANGE#                                                 NUMBER
 PLUGIN_RESETLOGS_CHANGE#                                       NUMBER
 PLUGIN_RESETLOGS_TIME                                          DATE
 CON_ID                                                         NUMBER
```


V$DATAFILE
V$DATAFILE displays datafile information from the control file.
See Also:
"V$DATAFILE_HEADER", which displays information from data file headers
Column
Datatype
Description
FILE#
NUMBER
File identification number
CREATION_CHANGE#
NUMBER
Change number at which the data file was created
CREATION_TIME
DATE
Timestamp of the data file creation
TS#
NUMBER
Tablespace number
RFILE#
NUMBER
Tablespace relative data file number
STATUS
VARCHAR2 (7)
Type of file (system or user) and its status. Values: OFFLINE, ONLINE, SYSTEM, RECOVER, SYSOFF (an offline file from the SYSTEM tablespace)
ENABLED
VARCHAR2 (10)
Describes how accessible the file is from SQL
DISABLED - No SQL access allowed
READ ONLY - No SQL updates allowed
READ WRITE - Full access allowed
UNKNOWN - Unknown whether SQL updates would be allowed or not


V$DATAFILE
CHECKPOINT_CHANGE#
NUMBER
SCN at last checkpoint
CHECKPOINT_TIME
DATE
Timestamp of the checkpoint#
UNRECOVERABLE_CHANGE#
NUMBER
Last unrecoverable change number made to this data file. If the database is in ARCHIVELOG mode, then this column is updated when an unrecoverable operation completes. If the database is not in ARCHIVELOG mode, this column does not get updated.
UNRECOVERABLE_TIME
DATE
Timestamp of the last unrecoverable change. This column is updated only if the database is in ARCHIVELOG mode.
LAST_CHANGE#
NUMBER
Last change number made to this data file (null if the data file is being changed)
LAST_TIME
DATE
Timestamp of the last change
OFFLINE_CHANGE#
NUMBER
Offline change number of the last offline range. This column is updated only when the data file is brought online.
ONLINE_CHANGE#
NUMBER
Online change number of the last offline range
ONLINE_TIME
DATE
Online timestamp of the last offline range
BYTES
NUMBER
Current data file size (in bytes); 0 if inaccessible
BLOCKS
NUMBER
Current data file size (in blocks); 0 if inaccessible



SQL> select file#, name, creation_time, status from v$datafile ;

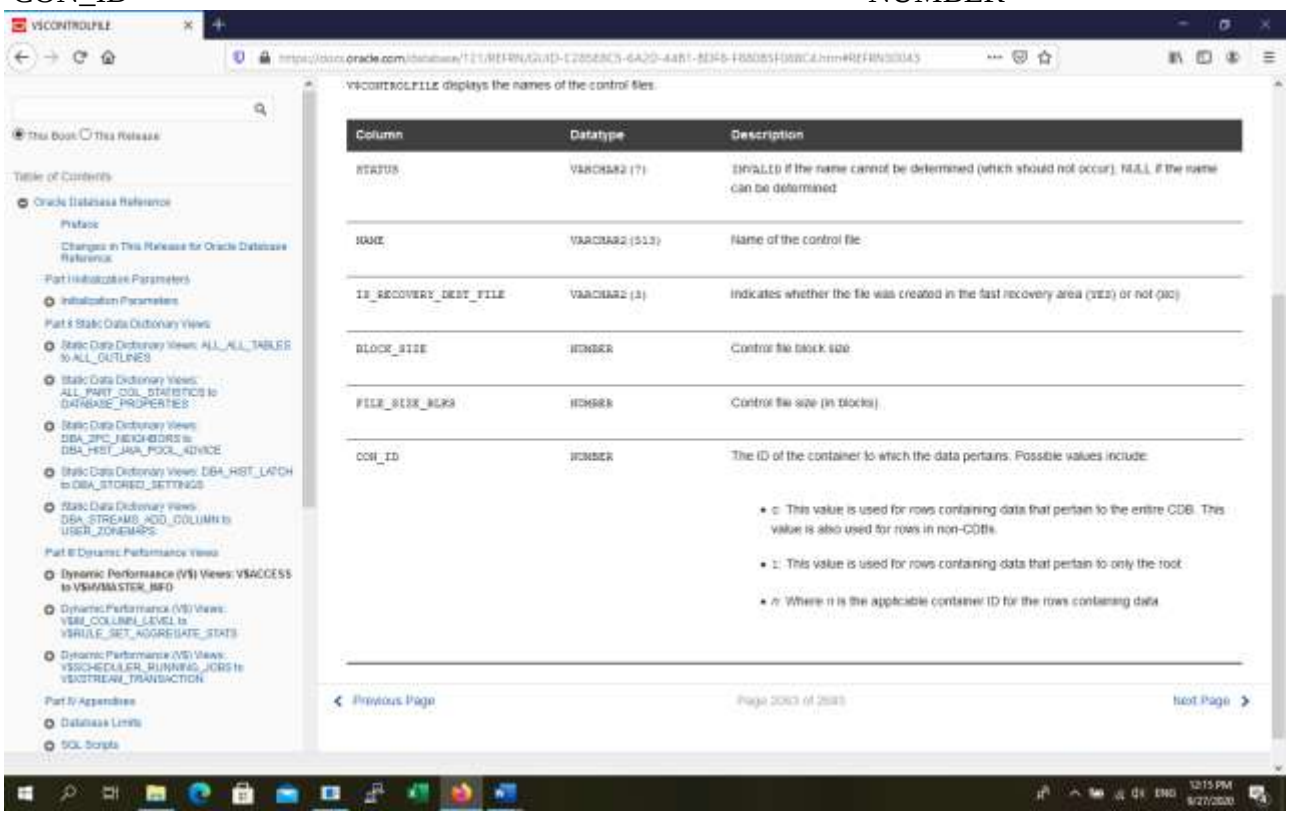
```
 FILE#
----------
NAME
--------------------------------------------------------------------
CREATION_TIME    STATUS
-----------------------      -------
         1
D:\ORACLE12C_DB\ORADATA\BD\SYSTEM01.DBF
11-SEP-14                SYSTEM

         3
D:\ORACLE12C_DB\ORADATA\BD\SYSAUX01.DBF
11-SEP-14                ONLINE
```

16) Vizualizare informatii despre fisierele de control folosind view-uri dinamice:

SQL> desc v$controlfile

Name	Null?	Type
STATUS		VARCHAR2(7)

NAME	VARCHAR2(513)
IS_RECOVERY_DEST_FILE	VARCHAR2(3)
BLOCK_SIZE	NUMBER
FILE_SIZE_BLKS	NUMBER
CON_ID	NUMBER



SQL> select name, block_size from v$controlfile;

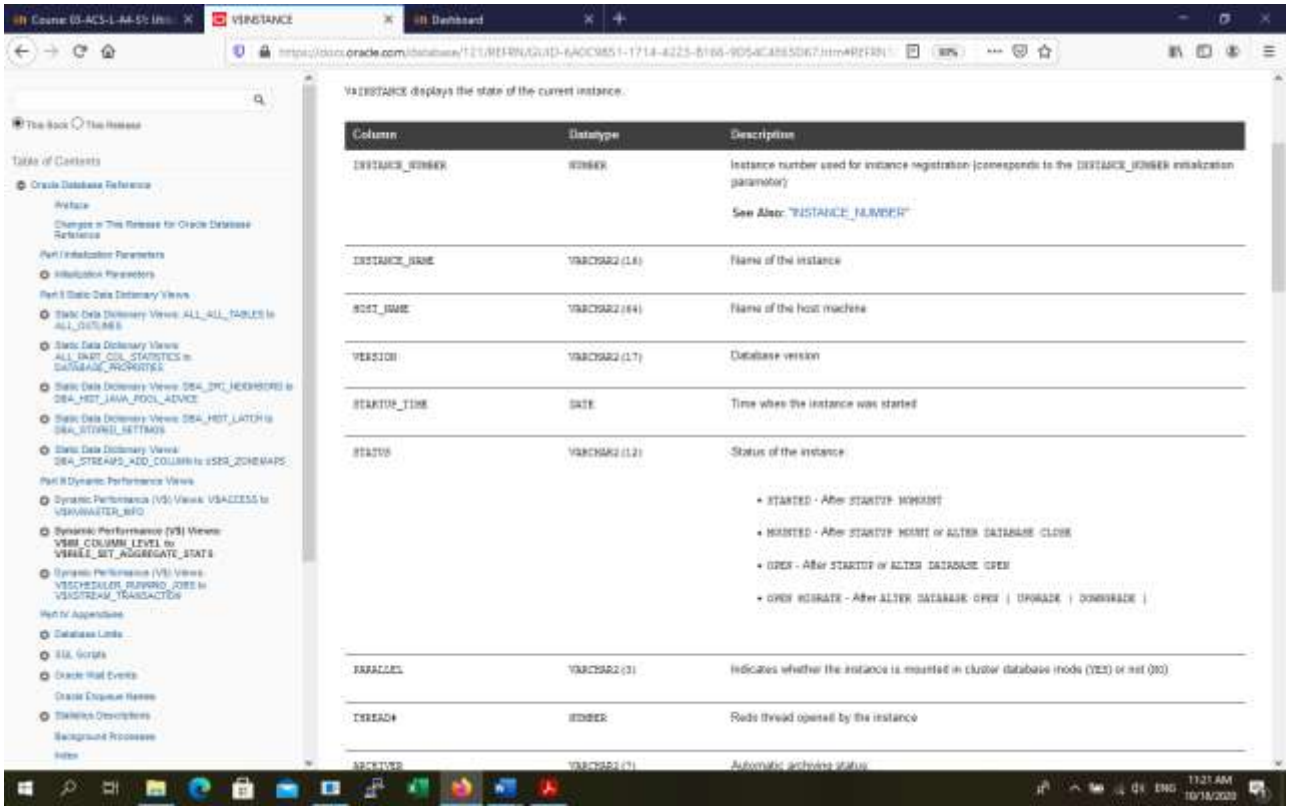
NAME	BLOCK_SIZE
C:\ORACLE_12C\ORADATA\BD\CONTROL01.CTL	16384
C:\ORACLE_12C\ORADATA\BD\CONTROL02.CTL	16384

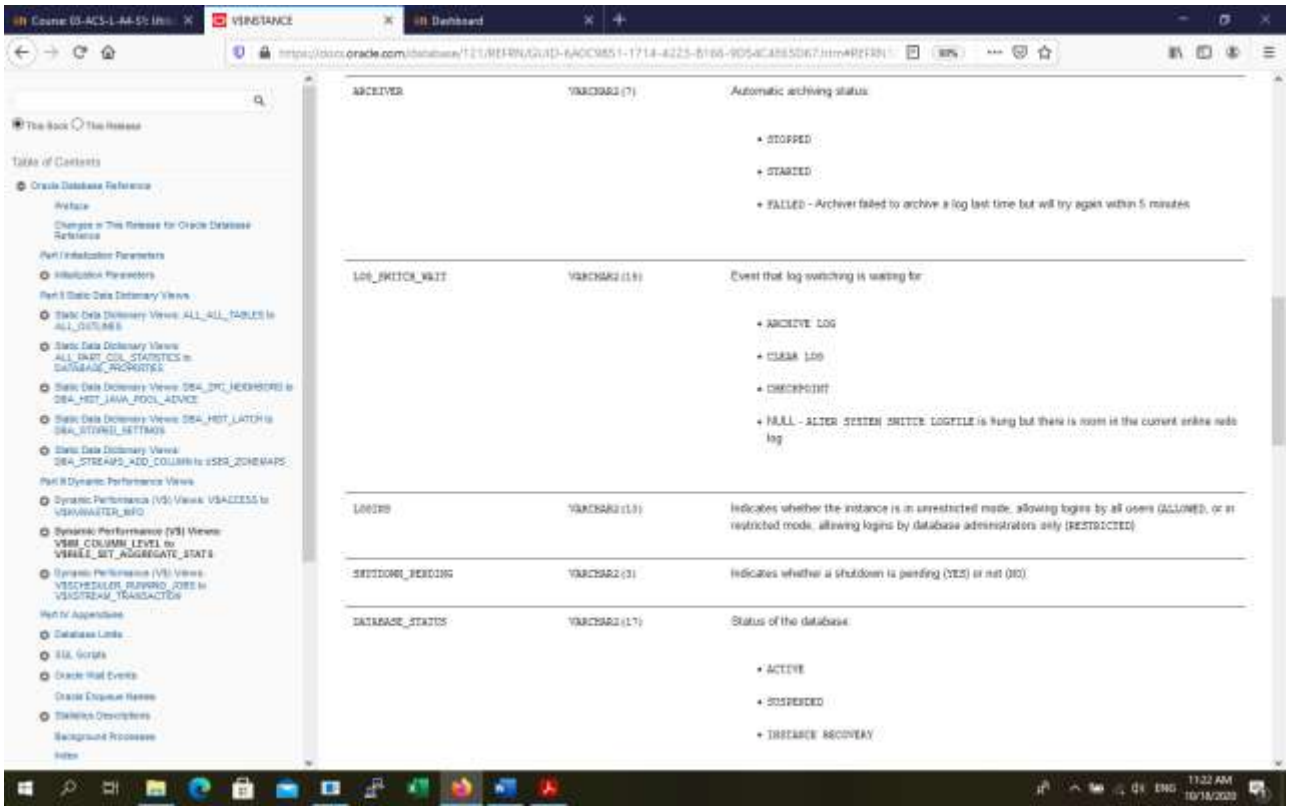
17) Vizualizare informatii despre instanta folosind view-uri dinamice:

SQL> desc v$instance

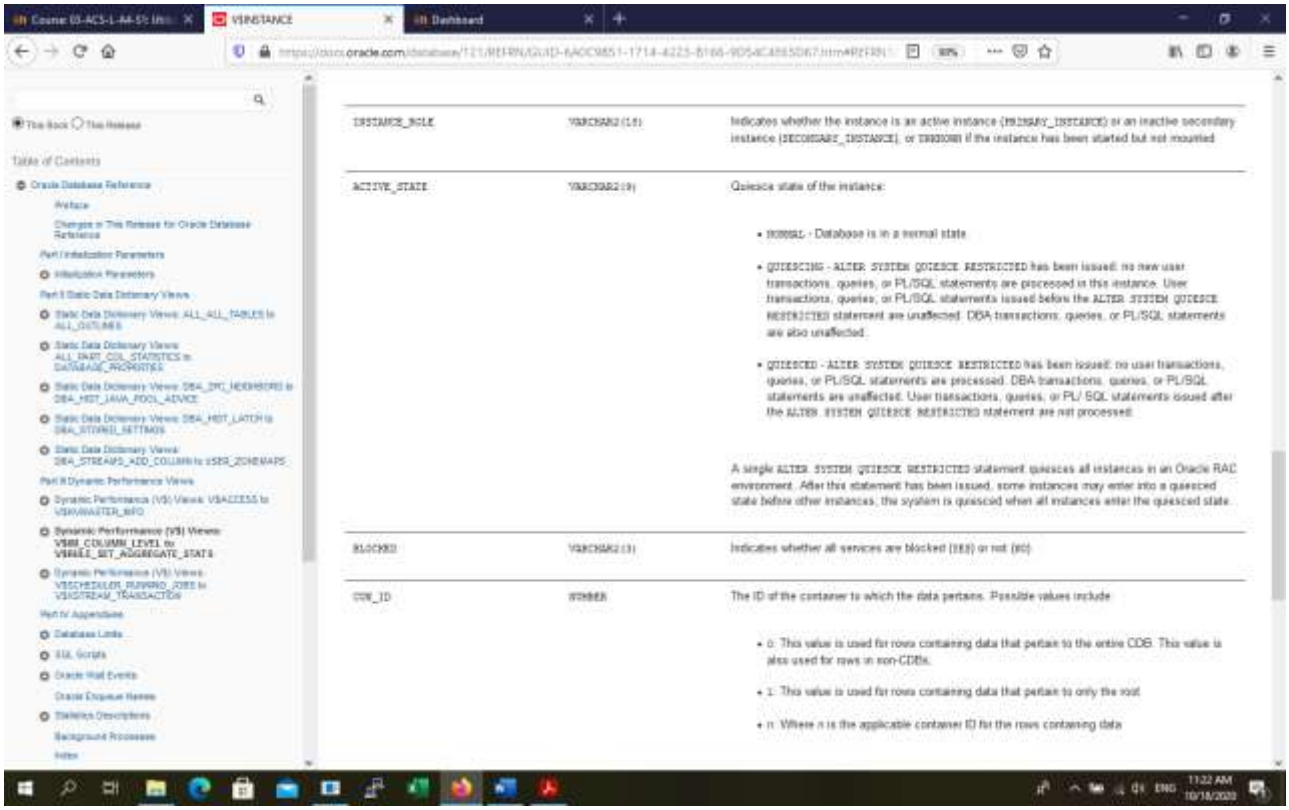
Name	Null?	Type
INSTANCE_NUMBER		NUMBER
INSTANCE_NAME		VARCHAR2(16)
HOST_NAME		VARCHAR2(64)
VERSION		VARCHAR2(17)
STARTUP_TIME		DATE

STATUS	VARCHAR2(12)
PARALLEL	VARCHAR2(3)
THREAD#	NUMBER
ARCHIVER	VARCHAR2(7)
LOG_SWITCH_WAIT	VARCHAR2(15)
LOGINS	VARCHAR2(10)
SHUTDOWN_PENDING	VARCHAR2(3)
DATABASE_STATUS	VARCHAR2(17)
INSTANCE_ROLE	VARCHAR2(18)
ACTIVE_STATE	VARCHAR2(9)
BLOCKED	VARCHAR2(3)
CON_ID	NUMBER
INSTANCE_MODE	VARCHAR2(11)
EDITION	VARCHAR2(7)
FAMILY	VARCHAR2(80)

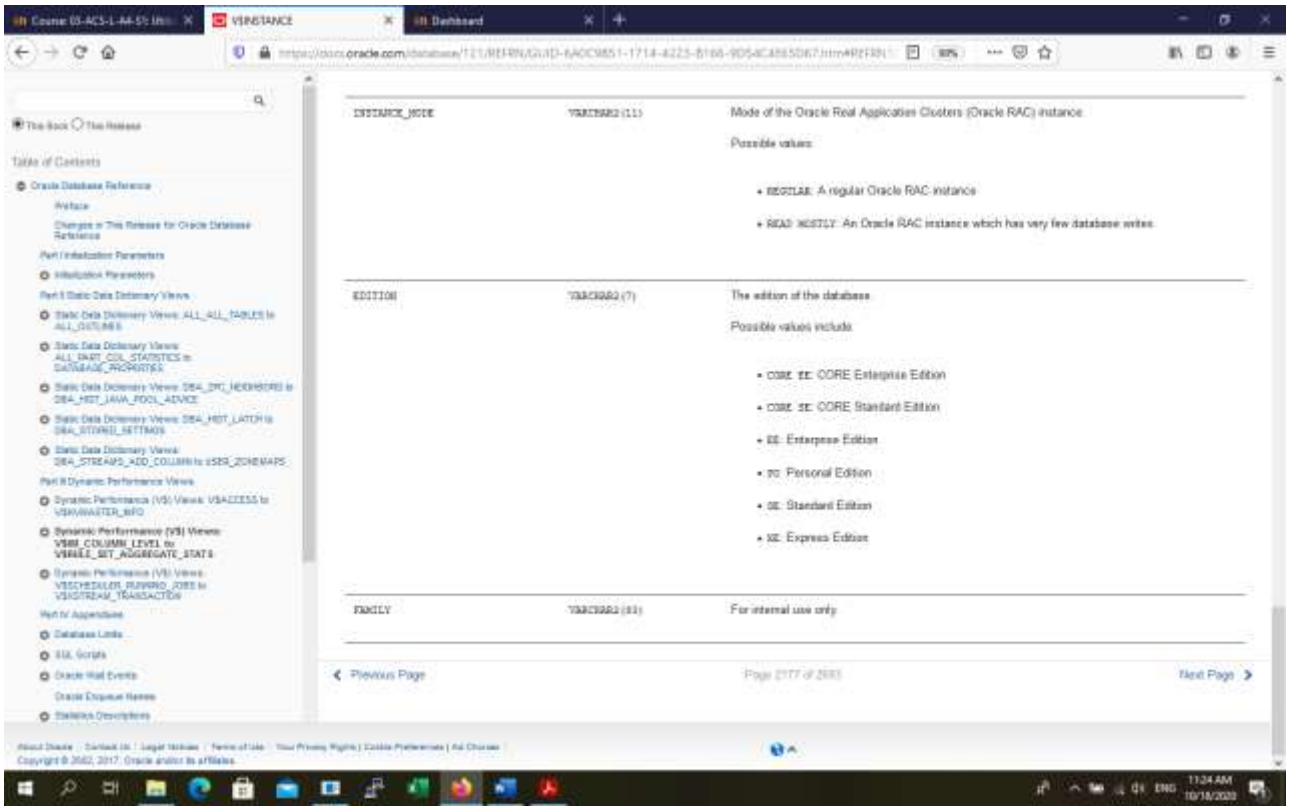




ARCHIVER	VARCHAR2 (7)	Automatic archiving status: • STOPPED • STARTED • FAILED - Archiver failed to archive a log last time but will try again within 5 minutes
LOG_SWITCH_WAIT	VARCHAR2 (16)	Event that log switching is waiting for: • ARCHIVE LOG • CLEAR LOG • CHECKPOINT • NULL - ALTER SYSTEM SWITCH LOGFILE is hung but there is room in the current online redo log
LOGINS	VARCHAR2 (10)	Indicates whether the instance is in unrestricted mode, allowing logins by all users (ALLOWED), or in restricted mode, allowing logins by database administrators only (RESTRICTED)
SHUTDOWN_PENDING	VARCHAR2 (3)	Indicates whether a shutdown is pending (YES) or not (NO)
DATABASE_STATUS	VARCHAR2 (17)	Status of the database: • ACTIVE • SUSPENDED • INSTANCE RECOVERY



INSTANCE_ROLE	VARCHAR2 (18)	Indicates whether the instance is an active instance (PRIMARY_INSTANCE) or an inactive secondary instance (SECONDARY_INSTANCE), or UNKNOWN if the instance has been started but not mounted
ACTIVE_STATE	VARCHAR2 (9)	Quiesce state of the instance: • NORMAL - Database is in a normal state • QUIESCING - ALTER SYSTEM QUIESCE RESTRICTED has been issued: no new user transactions, queries, or PL/SQL statements are processed in this instance. User transactions, queries, or PL/SQL statements issued before the ALTER SYSTEM QUIESCE RESTRICTED statement are unaffected. DBA transactions, queries, or PL/SQL statements are also unaffected. • QUIESCED - ALTER SYSTEM QUIESCE RESTRICTED has been issued: no user transactions, queries, or PL/SQL statements are processed. DBA transactions, queries, or PL/SQL statements are unaffected. User transactions, queries, or PL/ SQL statements issued after the ALTER SYSTEM QUIESCE RESTRICTED statement are not processed. A single ALTER SYSTEM QUIESCE RESTRICTED statement quiesces all instances in an Oracle RAC environment. After this statement has been issued, some instances may enter into a quiesced state before other instances; the system is quiesced when all instances enter the quiesced state.
BLOCKED	VARCHAR2 (3)	Indicates whether all services are blocked (YES) or not (NO)
CON_ID	NUMBER	The ID of the container to which the data pertains. Possible values include: • 0: This value is used for rows containing data that pertain to the entire CDB. This value is also used for rows in non-CDBs. • 1: This value is used for rows containing data that pertain to only the root. • n: Where n is the applicable container ID for the rows containing data



SQL> select instance_number,instance_name, to_char(startup_time, ‘dd-mm-yyyy hh:mi:ss’), status from v$instance;

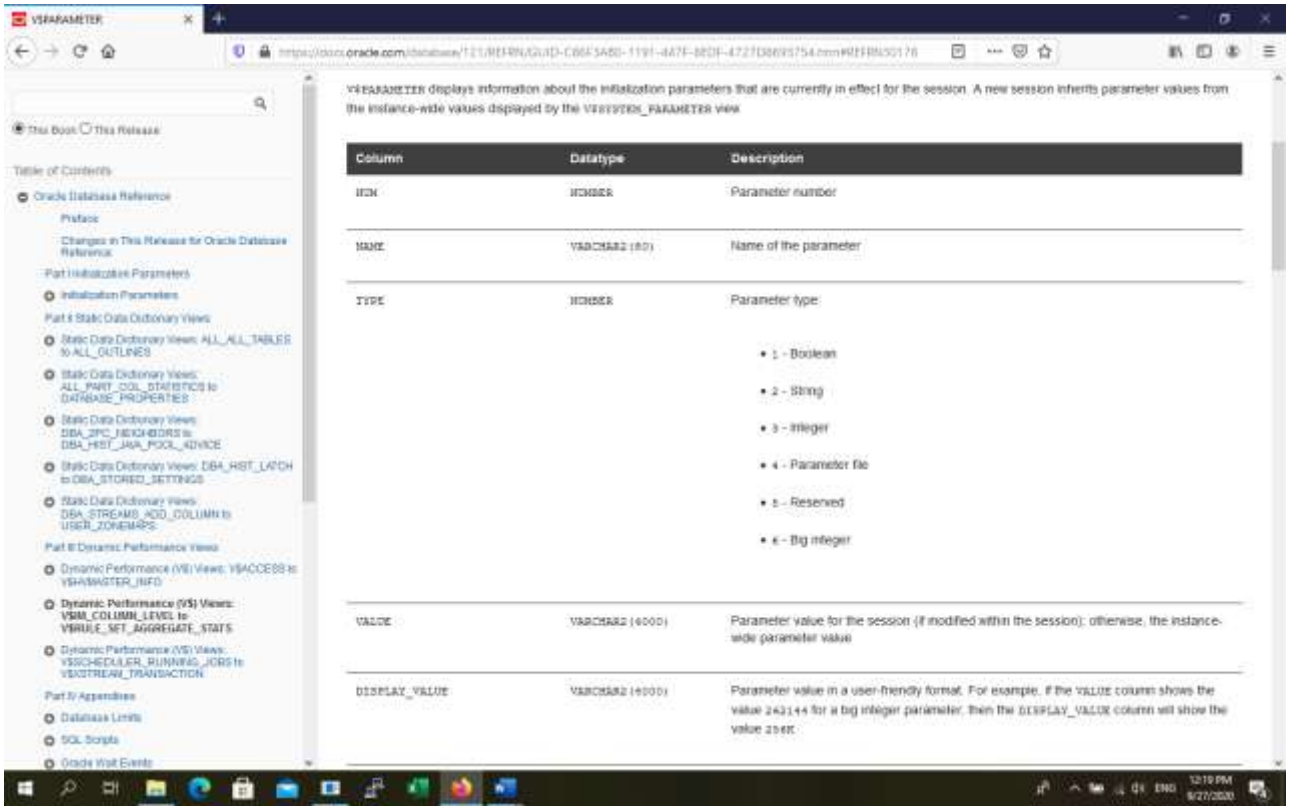
INSTANCE_NUMBER	INSTANCE_NAME	TO_CHAR(STARTUP_TIM	STATUS
1	ubd	17-10-2020 11:32:30	OPEN

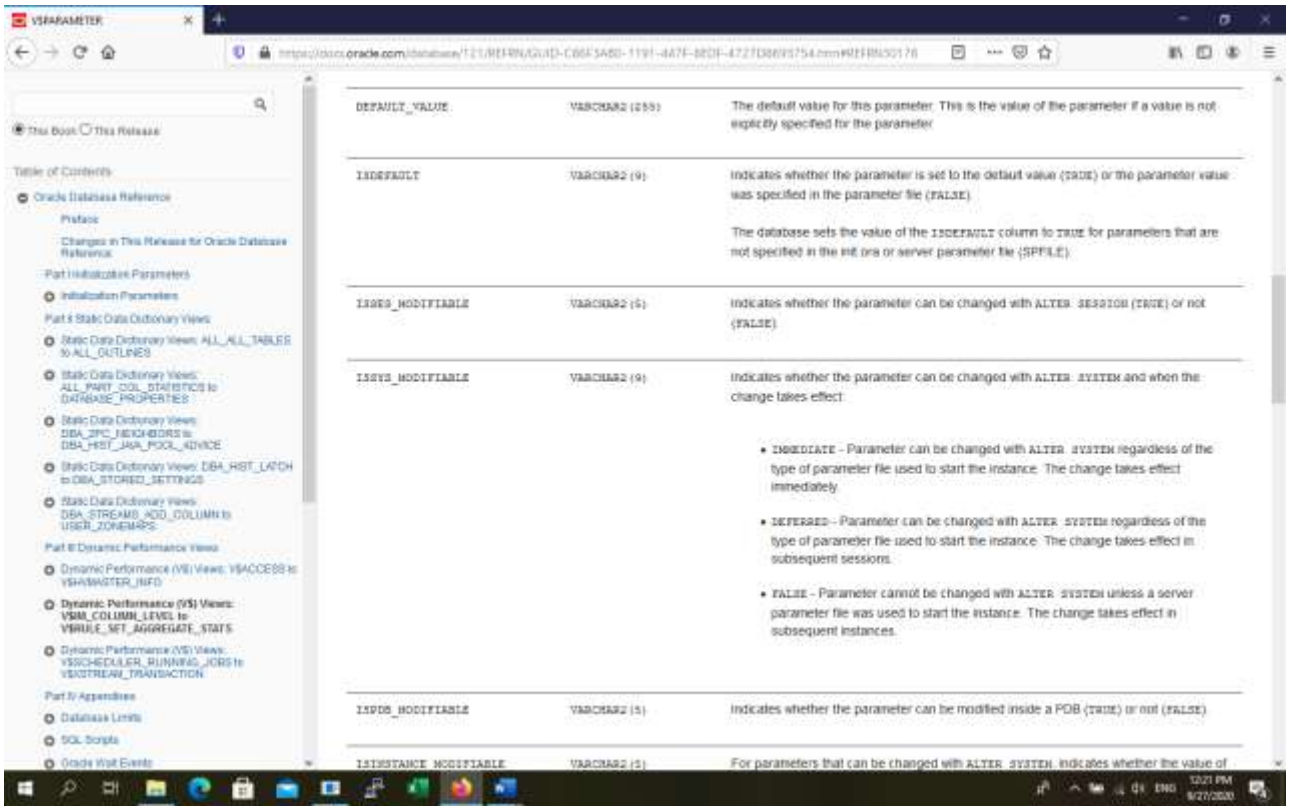
18) Vizualizare informatii despre parametrii de sistem folosind view-uri dinamice:

SQL> desc v$parameter

Name	Null?	Type
NUM		NUMBER
NAME		VARCHAR2(80)
TYPE		NUMBER
VALUE		VARCHAR2(4000)
DISPLAY_VALUE		VARCHAR2(4000)
DEFAULT_VALUE		VARCHAR2(255)
ISDEFAULT		VARCHAR2(9)
ISSES_MODIFIABLE		VARCHAR2(5)
ISSYS_MODIFIABLE		VARCHAR2(9)
ISPDB_MODIFIABLE		VARCHAR2(5)
ISINSTANCE_MODIFIABLE		VARCHAR2(5)

ISMODIFIED	VARCHAR2(10)
ISADJUSTED	VARCHAR2(5)
ISDEPRECATED	VARCHAR2(5)
ISBASIC	VARCHAR2(5)
DESCRIPTION	VARCHAR2(255)
UPDATE_COMMENT	VARCHAR2(255)
HASH	NUMBER
CON_ID	NUMBER





SQL> select name,value from v$parameter where name like '%file%';

NAME

VALUE
---
spfile
D:\ORACLE12C_DB\PRODUCT\12.1.0\DBHOME_1\DATABASE\SPFILEBD.ORA

control_files
D:\ORACLE12C_DB\ORADATA\BD\CONTROL01.CTL,
D:\ORACLE12C_DB\ORADATA\BD\CONTROL02.CTL

19) Vizualizare informatii despre parametrii de sistem folosind comanda SHOW:

SQL> show parameters

NAME	TYPE	VALUE
service_names	string	BD
session_max_open_files	integer	10
sessions	integer	472
sga_max_size	big integer	1648M
skip_unusable_indexes	boolean	TRUE

sort_area_retained_size	integer	0
sort_area_size	integer	65536
spatial_vector_acceleration	boolean	FALSE
spfile	string	D:\ORACLE12C_DB\PRODUCT\12.1.0 \DBHOME_1\DATABASE\SPFILEBD.ORA

Exercitii:

1. Sa se creeze unicitate pe o coloana din tabela dept apoi sa se verifice in dictionar daca a fost creata constrangerea.

2. Sa se creeze un index pe tabela emp apoi sa se faca o lista cu numele indecsilor creati pe tabelele din userul curent, tipul lor si numele tabelelor pe care au fost creati.

3. Sa se faca o lista cu numele userului curent si tablespace-ul in care userul isi creeaza tabelele.

4. Aratati din dictionar numele bazei de date si data cand au fost create fisierele de control asignate la baza de date curenta.

5. Aratati din dictionar care este dimensiunea standard a blocului de date pentru baza de date curenta.