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| **STARTUP PARAMETERS** | |
| AUDIT\_SYS\_OPERATIONS | |  |  | | --- | --- | | FALSE | Do not audit SYS | | TRUE | Audit SYS | |
| AUDIT\_TRAIL | |  |  | | --- | --- | | db | Enables database auditing and directs all audit records to the SYS.AUD$ table | | db\_extended | Enables database auditing and directs all audit records to the database audit trail (the SYS.AUD$ table) inlcuding the SQLBIND and SQLTEXT CLOB columns | | none | Disables database auditing | | os | Enables database auditing and directs all audit records to the operating system's audit trail | | xml | Enables database auditing and writes all audit records to XML format OS files | | xml\_extended | Enables database auditing and prints all audit trail columns, including SqlText and SqlBind values | |
| Related Dictionary Views | |  |  |  | | --- | --- | --- | | dba\_audit\_exists | dba\_audit\_session | dba\_obj\_audit\_opts | | dba\_audit\_objects | dba\_audit\_statement | dba\_priv\_audit\_opts | | dba\_audit\_policies | dba\_audit\_trail | dba\_stmt\_audit\_opts | | dba\_audit\_policy\_columns | dba\_common\_audit\_trail | gv$xml\_audit\_trail | |
| DCL Statement Options | |  |  | | --- | --- | | GRANT DIRECTORY | A | | REVOKE DIRECTORY | C | | GRANT SEQUENCE | C | | GRANT TABLE | C | | GRANT TYPE | C | |
| DDL Statement Options | |  |  | | --- | --- | | ALTER SYSTEM | ALTER SYSTEM | | CLUSTER | CREATE CLUSTER ALTER CLUSTER DROP CLUSTER TRUNCATE CLUSTER | | CONTEXT | CREATE CONTEXT DROP CONTEXT | | DATABASE LINK | CREATE DATABASE LINK DROP DATABASE LINK | | DIMENSION | CREATE DIMENSION ALTER DIMENSION DROP DIMENSION | | DIRECTORY | CREATE DIRECTORY DROP DIRECTORY | | INDEX | CREATE INDEX ALTER INDEX ANALYZE INDEX DROP INDEX | | MATERIALIZED VIEW | CREATE ALTER DROP | | NOT EXISTS | All SQL statements that fail because the object does not exist | | PRO  CEDURE | CREATE FUNCTION CREATE LIBRARY CREATE PACKAGE CREATE PACKAGE BODY CREATE PROCEDURE DROP FUNCTION DROP LIBRARY DROP PACKAGE DROP PROCEDURE | | PROFILE | CREATE ALTER DROP | | PUBLIC DATABASE LINK | CREATE DROP | | PUBLIC SYNONYM |  | | ROLE |  | | ROLLBACK SEGMENT | CREATE ROLLBACK SEGMENT ALTER ROLLBACK SEGMENT DROP ROLLBACK SEGMENT | | SEQUENCE | CREATE SEQUENCE DROP SEQUENCE | | SESSION | LOGONS | | SYNONYM | CREATE SYNONYM DROP SYNONYM | | SYSTEM AUDIT | AUDIT NOAUDIT | | SYSTEM GRANT |  | | TABLE | CREATE TABLE DROP TABLE TRUNCATE TABLE | | TABLESPACE | CREATE TABLESPACE ALTER TABLESPACE DROP TABLESPACE | | TRIGGER | CREATE TRIGGER ALTER TRIGGER (with ENABLE and DISABLE clauses) | | TYPE | CREATE TYPE CREATE TYPE BODY ALTER TYPE DROP TYPE DROP TYPE BODY | | USER | CREATE ALTER DROP | | VIEW | CREATE VIEW DROP VIEW | |
| DML Statement Options | |  |  | | --- | --- | | DELETE TABLE | A | | EXECUTE PROCEDURE | C | | CONTEXT | CREATE CONTEXT DROP CONTEXT | | DATABASE LINK | CREATE DATABASE LINK DROP DATABASE LINK | | DIMENSION | CREATE DIMENSION ALTER DIMENSION DROP DIMENSION | |
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| **Audit Demo** | |
| Sys Audit | conn / as sysdba  set linesize 121 col name format a40 col value format a40  SELECT name, value FROM gv$parameter WHERE name LIKE '%audit%';  NAME VALUE -------------------- -------------------- audit\_sys\_operations FALSE audit\_file\_dest      C:\ORACLE\PRODUCT\ADMIN\ORABASE\ADUMP audit\_trail          DB  -- Note: Do not do this with audit\_trail=XML in 10gR2  -- fails ALTER SYSTEM SET audit\_sys\_operations=TRUE COMMENT='Begin auditing SYS' SCOPE=BOTH;  -- fails ALTER SYSTEM SET audit\_sys\_operations=TRUE COMMENT='Begin auditing SYS' SCOPE=MEMORY;  -- succeeds ALTER SYSTEM SET audit\_sys\_operations=TRUE COMMENT='Begin auditing SYS' SCOPE=SPFILE; -- auditing will begin after a restart  shutdown immediate  startup  SELECT name, value FROM gv$parameter WHERE name LIKE '%audit%';  CREATE USER xyz IDENTFIED BY xyz;  DROP USER xyz;  -- look in the audit\_file\_dest directory for a file named -- ora\_<pid>.aud where "pid" is the operating system process ID  ALTER SYSTEM SET audit\_trail='XML' COMMENT='Audit trail as XML' SCOPE=SPFILE;  shutdown immediate  startup  SELECT name, value FROM gv$parameter WHERE name LIKE '%audit%';  CREATE USER xyz IDENTFIED BY xyz;  DROP USER xyz;  -- look in the audit\_file\_dest directory for a file named -- ora\_<pid>.aud where "pid" is the operating system process ID  ALTER SYSTEM SET audit\_trail='db' COMMENT='Change auditing to sys.aud$' SCOPE=BOTH; |
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| **Audit Demos** | |
| Audit CREATE OBJECT | AUDIT <sql\_statement\_clause> BY <session> [WHENEVER [NOT] SUCCESSFUL]  AUDIT <sql\_statement\_clause> BY <access> [WHENEVER [NOT] SUCCESSFUL]  AUDIT <schema\_object\_clause>  AUDIT NETWORK; |
| conn / as sysdba  audit create procedure; audit table; audit create table; audit create trigger; audit create view; audit table;  conn uwclass/uwclass  CREATE TABLE t ( newcol VARCHAR2(20));  CREATE PROCEDURE p IS BEGIN   NULL; END; /  CREATE VIEW v AS SELECT \* FROM t;  conn / as sysdba  SELECT COUNT(\*) FROM aud$; |
| Audit SELECT | conn / as sysdba  audit select on scott.emp; audit select any table whenever successful; audit select any table whenever not successful;  conn scott/tiger  SELECT COUNT(\*) FROM emp;  SELECT \* FROM emp WHERE sal < 3000;  conn / as sysdba  SELECT COUNT(\*) FROM aud$; |