Oracle® Tutor™

Section 1 数据库和网络配置注意事项和答案

0.注意事项

按照要求修改初始化参数。
手工配置 lisener.ora/tnsnames.ora。
按要求完成静态注册，动态注册，别名注册。
完成共享服务配置。
rac 负载连接配置。
完成表空间，日志文件，临时表空间组的创建。此处需要注意的是，对于数据文件，考试可能都会有详细的要求，比如第一个 extent 应该多大，每次扩展多少，初始化时数据文件多大，最终能够扩展到多大。要求详细阅读考试的要求，至于这里的语法，如果不记得，没有什么好的办法，只能去查 SQL Reference 文档了。
归档并做好备份。备份不是必须的步骤。
确保数据库 open。能本地连接/网络连接。
建表空间时尽量加上那些平时感觉没有用的单词。

1.文档

　　　14213: 网络指南
Net Services Reference-> 7 Listener Parameters (listener.ora)

2.可能会遇到的怪题

注意审题，如果提示对数据库进行备份，请按要求进行备份。在接下来的考试中有可能设置陷阱在后面的题要求恢复。

PASSWORDS_LISTENER = 20A22647832FB454 # "foobar"
为 listener 设置密码后，就会出现这行，设置的方法是
lsnrctl
change_password
输入密码，确认密码
set password
输入密码
save_config

如果遇到以下报错：
[oracle@ocmdb1 admin]$ lsnrctl start

LSNRCTL for Linux: Version 10.2.0.2.0 - Production on 20-NOV-2009 19:15:13

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Starting /oracle/app/oracle/product/10.2.0/db_1/bin/tnslsnr: please wait...

TNS-12537: TNS:connection closed
 TNS-12560: TNS:protocol adapter error
  TNS-00507: Connection closed
   Linux Error: 29: Illegal seek
检查/etc/hosts 中是否有 127.0.0.1 localhost

tnsnames.ora 的配置，在 smaples 里面的那个比较难看，可以用在线文档的 Net Services Administrator's Guide-8 Configuring Naming Methods-About Connect Descriptors 里面的第二个例子：

sales=
 (DESCRIPTION=
  (ADDRESS= (PROTOCOL=tcp)(HOST=sales-server)(PORT=1521))
  (CONNECT_DATA=
    (SERVICE_NAME=sales.us.acme.com)))

监听器跟踪：
lsnrctl

LSNRCTL for Linux: Version 10.2.0.2.0 - Production on 01-OCT-2014 14:36:18

Copyright (c) 1991, 2005, Oracle. All rights reserved.

Welcome to LSNRCTL, type "help" for information.

LSNRCTL> help trace
trace OFF | USER | ADMIN | SUPPORT [<listener_name>] : set tracing to the specified level
off 对应数值 0
user 对应数值 4
admin 对应数值 6
support 对应数值 16
LSNRCTL> set current_listener LNSR2
set trc_level support （或 set trc_level 0/4/6/16)
set trc_level off
还有一种等价的做法：
trace support listener2
trace off listener2
生成的 trace 文件需要用命令 trcass 进行格式化
另外一种方式，可以直接在 listener.ora 文件中设置，例如：
trace_level_listener2=support

新增连接串 EMRDEV 在描述时前半部分和 EMREP 描述一样，最后加了一点要求，当连接偶
数机数据库失败时，要求 the number of times to attempt to connect the amount of time is
50. between connect attempts is 5 in seconds.
(description=
  (address=(protocol=tcp)(host=station1)(port=1521))
  (connect_data=
    (service_name=xxxx)
    (failover_mode=
     (type=select)
     (method=basic)
     (retries=50)
     (delay=5)
)
)
)

3.正常题目：

1. Database Setup and Undo Management
    1.1 Set up automatic undo management in the PROD database to support the following

requirements :

      1.1.1 Avoid ORA-01555 Snapshot too old errors for queries running up to 90 minutes on average .

      1.1.2 The number of concurrent OLTP users will be approximately 120 during normal business hours .

      1.1.3 The number of concurrent batch processes that will run in the evenings and weekings will be approximately 12 to 15 .

更改参数设置

Alter system set undo_retention=5400(1.1.1);

(show parameter unto)

使以上参数生效：

Alter tablespace undotbs retention guarantee(1.1.1);

(select tablespace_name,retention from dba_tablespaces;)

alter system set processes=135 scope=spfile;

alter system set job_queue_processes=15;

2. Server-side Network Configuration

2.1. Create a listener using the default listener name .

      2.1.1 The TCP/IP protocol will be used for all connections.Use the machine name (not the IP address) for host.

         2.1.2 This listener will listener on the default port.

      2.1.3 Database: PROD will be serviced by this listener.

```
LISTENER =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = TCP)(HOST = test)(PORT = 1521))
      (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC0))
    )
  )
```

2.2 Add a second listener,named LSNR2,which will listen on port 1526,Configure this listener to support only automatic instance registrations.

      2.2.1 Set up the PROD instance to automatically register with the LSNR2.

```
#SID_LIST_LSNR2 =
#  (SID_LIST =
#    (SID_DESC =
#      (SID_NAME = PROD )
#      (ORACLE_HOME = /oracle/product/10.2.0/db_1)
#    )
#  )
LSNR2 =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = TCP)(HOST = test)(PORT = 1526))
    )
```

```
        )
    2.3 Start both listeners.
     LSNR_2 =
       (DESCRIPTION =
        (ADDRESS_LIST =
          (ADDRESS = (PROTOCOL = TCP)(HOST = test)(PORT = 1526))
        )
        (CONNECT_DATA =
          (SERVICE_NAME = LSNR_2)
        )
       )
```

alter system set local_listener='prod_2'(2.2.1)
alter system regitster(2.2.1)
lsnrctl start
lsnrctl start lsnr2

3. Shared Server Configuartion

3.1 Configure the PROD database to support up to 300 sessions,reserving 100 for dedicated connection.

SQL> alter system set sessions=300 scope=spfile ;
SQL> alter system set shared_server_sessions=200 scope=both;

3.2 Configure the PROD database to support.

      3.2.1 Default of 3 TCP dispatchers

SQL>alter system set dispatchers="(PROTOCOL=TCP)(DISPATCHERS=3)" scope=both;

      3.2.2 Maximum of 10 dispatchers

SQL> alter system set max_dispatchers=10 scope=both;

3.3.Configure the PROD database to support:

      3.3.1 Minimum of 10 shared server processes

SQL> alter system set shared_servers=10 scope=both;

      3.3.2 Maximum of 30 shared server processes

SQL> alter system set max_shared_servers=30 scope=both;

4. Client-side Network configuartion

4.1. Create the client-side network configuration files providing connect descriptors to your databases using local naming and easy connect methods.

Sqlnet.ora: NAMES.DIRECTORY_PATH= (TNSNAMES, EZCONNECT)

      4.1.1 The prod alias should connect to the PROD instance using the default listener and always use a dedicated server connection.

```
       prod =
         (DESCRIPTION =
          (ADDRESS_LIST =
            (ADDRESS = (PROTOCOL = TCP)(HOST = test)(PORT = 1521))
```

```
        )
        (CONNECT_DATA =
          (SERVICE_NAME = PROD)
        )
      )
```
4.1.2 The prod_s alias should connect to the PROD instance using LSNR2 and use a shared server connection.
```
      prod_s =
       (DESCRIPTION =
        (ADDRESS_LIST =
          (ADDRESS = (PROTOCOL = TCP)(HOST = test)(PORT = 1526))
        )
        (CONNECT_DATA =
          (SERVICE_NAME = PROD)
          (server=shared)
        )
      )
```
4.2. The racdb alias should connect to the RACDB service (created later) with a dedicated server connection.

4.2.1 The RACDB service will be running on your RAC Cluster.
```
     racdb =
       (DESCRIPTION =
        (ADDRESS_LIST =
          (ADDRESS = (PROTOCOL = TCP)(HOST = rac1)(PORT = 1521))
            (ADDRESS = (PROTOCOL = TCP)(HOST = rac2)(PORT = 1521))
        )
        (CONNECT_DATA =
          (SERVICE_NAME = RACDB)
        )
      )
```
4.3. The emrep alias should connect to the EMREP instance instance (created later) with a dedicated server connection.
```
    emrep =
     (DESCRIPTION =
      (ADDRESS_LIST =
        (ADDRESS = (PROTOCOL = TCP)(HOST = test)(PORT = 1521))
      )
      (CONNECT_DATA =
        (SERVICE_NAME = EMREP)
      )
    )
```

5. Tablespace Creation and Configuration

Note:Tablespaces must be named as specified in each task to receive credit .

5.1 Create a temporary tablespace group that contains two(2) temporary tablespaces to support batch processing.the creation of large indexes, and analyzing tables.Use the following specifications:

        5.1.1Temporary tablespace group named TEMP_GRP containing temporary tablespaces TEMP1 and TEMP2.

```
create temporary tablespace temp1
    tempfile '/oracle/oradata/temp1_01_grp.dbf' size 20m
    AUTOEXTEND ON MAXSIZE UNLIMITED
    tablespace group TEMP_GRP ;
create temporary tablespace temp2
    tempfile '/oracle/oradata/temp2_01_grp.dbf' size 20m
    AUTOEXTEND ON MAXSIZE UNLIMITED
    tablespace group TEMP_GRP ;
```

        5.1.2 Make TEMP_GRP the default temporary tablespace for all new users.

```
alter database default temporary tablespace TEMP_GRP;
(SQL> select * from dba_tablespace_groups;
SQL>select * from database_properties;)
```

5.2 Create a permanent tablespace to store sample test data.Use the following specifications:

        5.2.1 Tablespace name of EXAMPLE

        5.2.2 Inital datafile size of 400MB with the file expected to grow to 4TB.

        5.2.3 Initial extent size of 1MB

        5.2.4 Next extent size of 1MB

```
-- drop tablespace EXAMPLE including contents and datafiles ;
CREATE BIGFILE TABLESPACE example
    DATAFILE '/oracle/oradata/example01.dbf' SIZE 400M
    AUTOEXTEND ON NEXT 1M MAXSIZE 4T
    EXTENT MANAGEMENT LOCAL UNIFORM SIZE 1M
    SEGMENT SPACE MANAGEMENT AUTO ;
```

5.3 Create a permanent tablespace to store indexes.Use the following specifications:

        5.3.1 Tablespace name of INDX

        5.3.2 File size of 40MB

```
create tablespace INDX
    datafile '/oracle/oradata/index01.dbf' size 40m
    AUTOEXTEND ON ;
```

5.4 Create a permanent tablespace to store data collected from various Oracle tools.Use the following specifications:

        5.4.1 Tablespace name of TOOLS

        5.4.2 File size of 10MB

```
-- drop tablespace TOOLS including contents and datafiles ;
create tablespace TOOLS
    datafile '/oracle/oradata/tools01.dbf' size 10m
    AUTOEXTEND ON ;
```

5.5 Create a default permanent tablespace using the following specifications:

5.5.1 Tablespace name of USERS

5.5.2 File size of 48MB

5.5.3 Initial extent size of 4MB

5.5.4 Next extent size of 4MB

-- drop tablespace USERS including contents and datafiles ;

create tablespace USERS

datafile '/oracle/oradata/users01.dbf' size 48m

AUTOEXTEND ON NEXT 4m

EXTENT MANAGEMENT LOCAL UNIFORM SIZE 4M

SEGMENT SPACE MANAGEMENT AUTO ;

alter database default tablespace USERS ;

5.6 Create a permanent tablespace for storing segments associated with online transaction processing high insert rates.Due to the potential high volume of concurrent inserts,every effort should be taken to reduce contention for each of the tables that will be stored in this tablespace.Use the following specifications:

5.6.1 Tablespace name of OLTP

5.6.2 File size of 48MB

5.6.3 Initial extent size of 2MB

5.6.4 Next extent size of 2MB

-- drop tablespace OLTP including contents and datafiles ;

create tablespace OLTP

datafile '/oracle/oradata/oltp01.dbf' size 48m

AUTOEXTEND ON NEXT 2M

EXTENT MANAGEMENT LOCAL UNIFORM SIZE 2M

SEGMENT SPACE MANAGEMENT AUTO ;

6. Log File Management

6.1. Due to the expected high volume of transactions,the database should have the following configuration:

6.1.1 A minimum of 5 redo log groups.

6.1.2 Each redo log group should not be a single point of failure

6.1.3 File size of 100MB

6.1.4 Specify the location such that it minimizes contention and reduces the risk of a single point of failure in case of disk drive failure.

--alter database drop logfile group 1;

--alter database drop logfile group 2;

--alter database drop logfile group 3;

--alter database add logfile group 1 ('

/oracle/oradata/redo11.log','/oracle/oradata/redo12.log') size 100m;

--alter database add logfile group 2 (

'/oracle/oradata/redo21.log','/oracle/oradata/redo22.log') size 100m;

--alter database add logfile group 3 ('

/oracle/oradata/redo31.log','/oracle/oradata/redo32.log') size 100m;

Alter database add logfile member '/oracle/oradata/redo12.log' to group 1;

Alter database add logfile member '/oracle/oradata/redo22.log' to group 2;
Alter database add logfile member '/oracle/oradata/redo32.log' to group 3;
alter database add logfile group 4 (
'/oracle/oradata/redo41.log','/oracle/oradata/redo42.log') size 100m;
alter database add logfile group 5 (
'/oracle/oradata/redo51.log','/oracle/oradata/redo52.log') size 100m;

select a.group#,member,bytes/1024/1024 from v$logfile a,v$log b where a.group#=b.group#;

6.2. Triplex the controlfile to minimize recovery in case of disk drive failure.

将数据库关闭，然后拷贝控制文件到不同的目标路径（不同的 disk)，然后改 pfile，然后重新生成 spfile。

7．Schema Creation

7.1. As user SYS,run the script /home/oracle/scripts/create_bishhr.sql,Ignore any errors concerning OE.But do not ignore any other errors.

@/home/oracle/scripts/create_bishhr.sql

8. Schema Statistics and Parameter File Configuration

8.1. Compute statistics for the various schemas in the database as necessary for use with cost based optimization.

8.2. Investigate the parameter file for reasonable sizes for each parameter listed.Add additional parameters as you deem necessary to support an optimal database environment.In addition,modify or add the following listed parameters:

   UTL_FILE_DIR=('/home/oracle','/home/oracle/temp','/home/oracle/scripts')

   Note: Appalications that use Oracle 10g features will be running therefore,ensure the database and instance are appropriately configured.

exec dbms_stats.gather_database_stats(degree=>5);
alter system set
utl_file_dir='/home/oracle','/home/oracle/temp','/home/oracle/scripts' scope=spfile ;

9. Database Backup and Availability

9.1. Backup the database to prepare for complete recovery under all circumstances.
9.2. OPEN the database .
rman target /
run {
backup full database format '/oracle/bak/full_%U.bak';
backup archivelog all format '/oracle/bak/arc_%U.bak';
copy current controlfile to '/oracle/bak/control_bak';
}