

Oracle9i R2

Block Level Recovery - using Enterprise Manager Recovery Wizard.

Error encountered by user

```
SQL> select * from scott.emp;
```

```
select * from scott.emp
```

```
*
```

ERROR at line 1:

ORA-01578: ORACLE data block corrupted (file # 1, block # 49354)

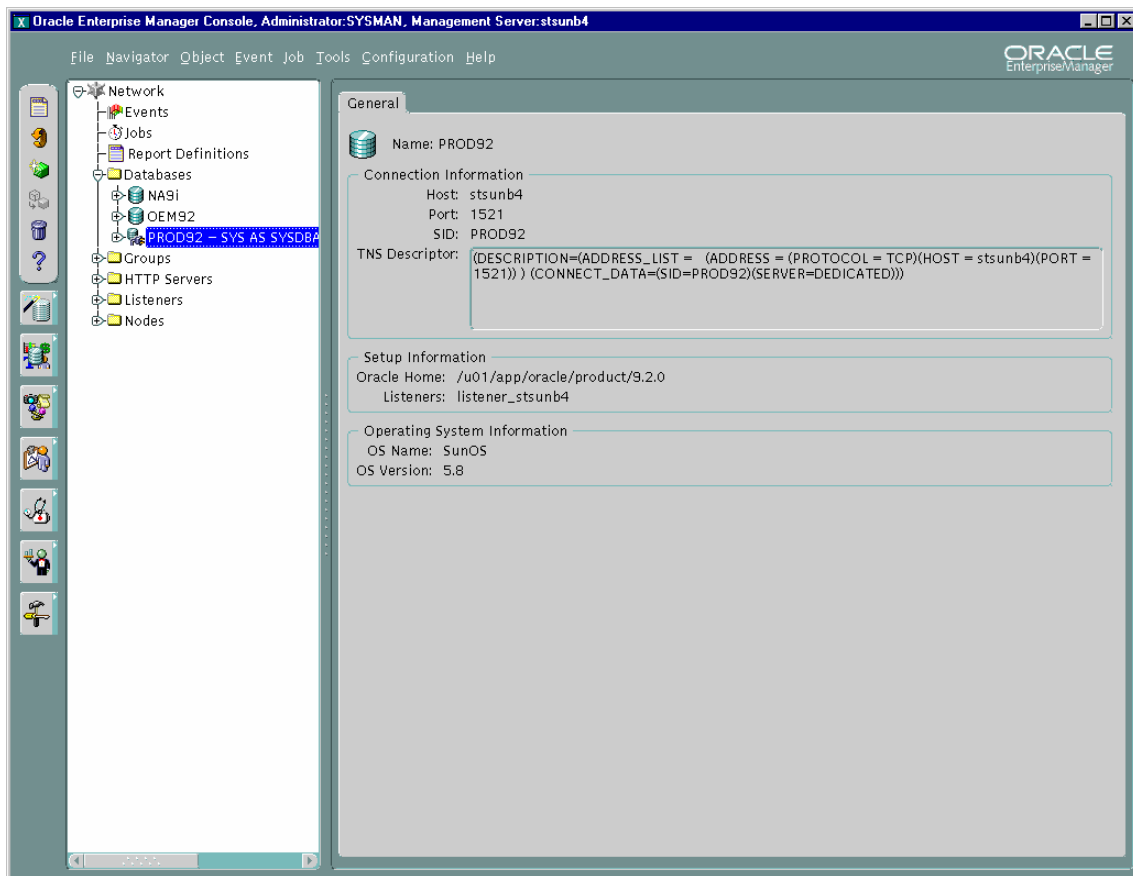
ORA-01110: data file 1:

' /u01/app/oracle/product/9.2.0/oradata/PROD92/system01.dbf '

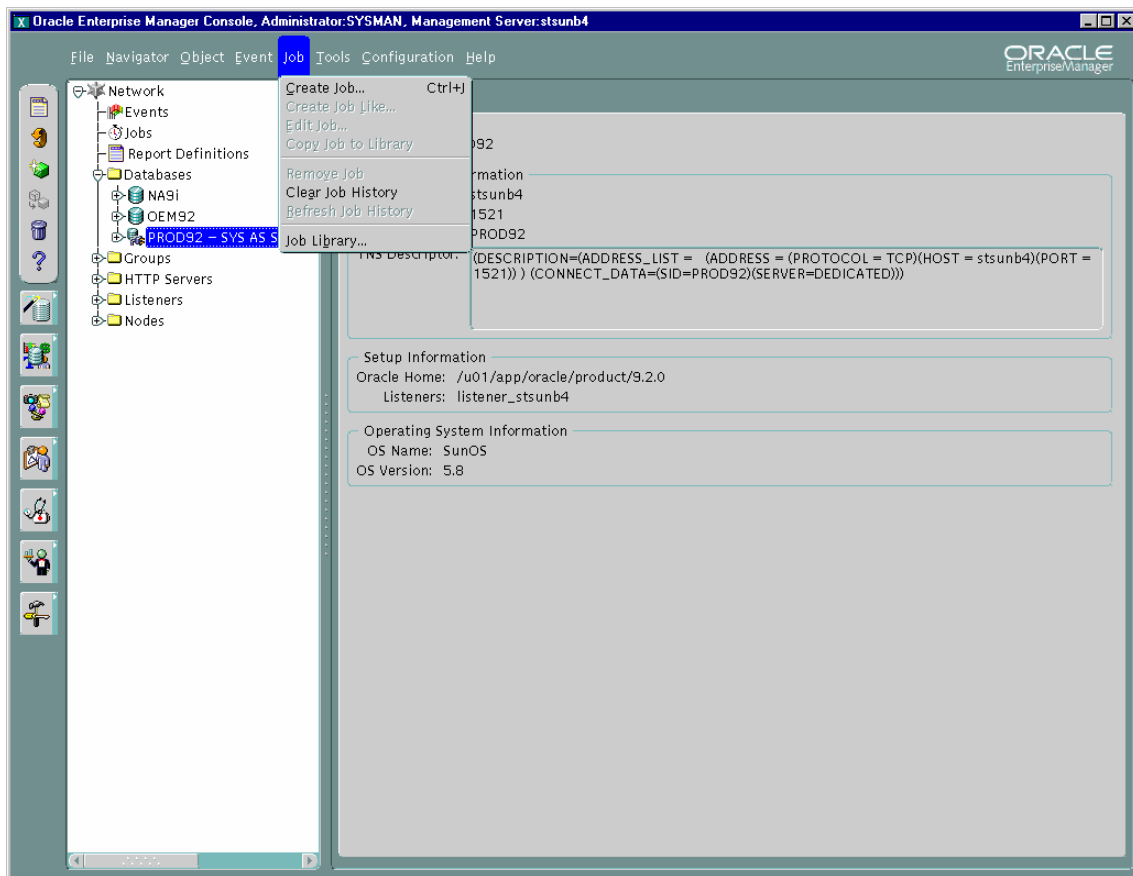
Actions

Start the EM Console

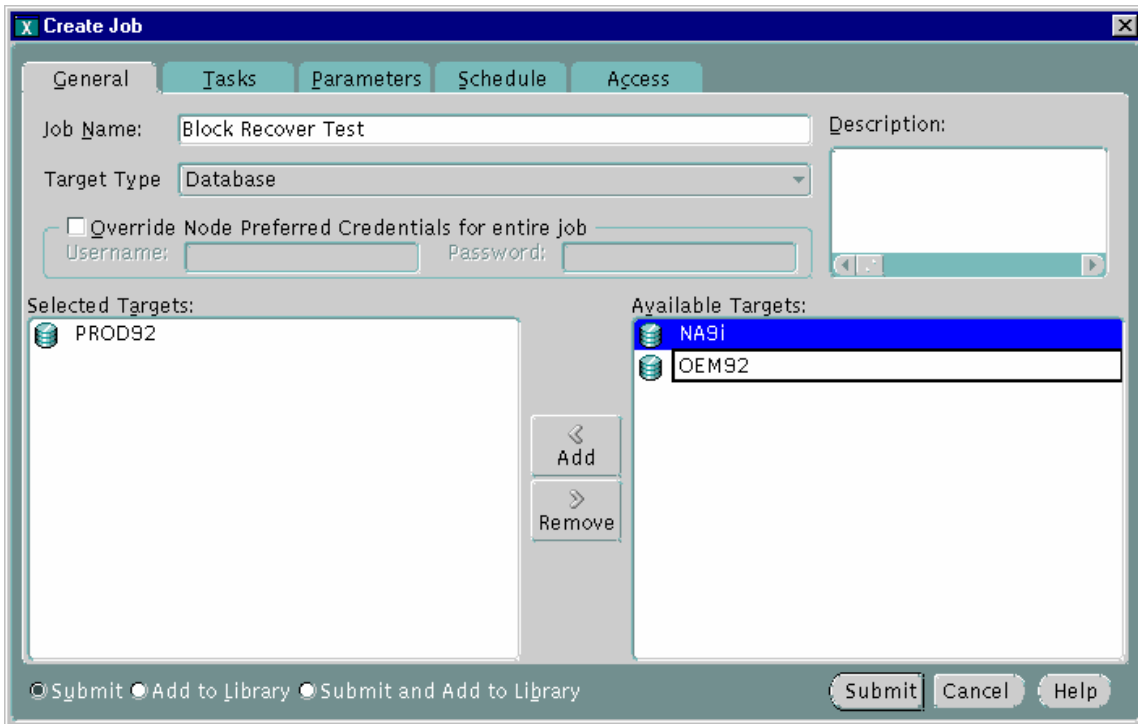
% oemapp console



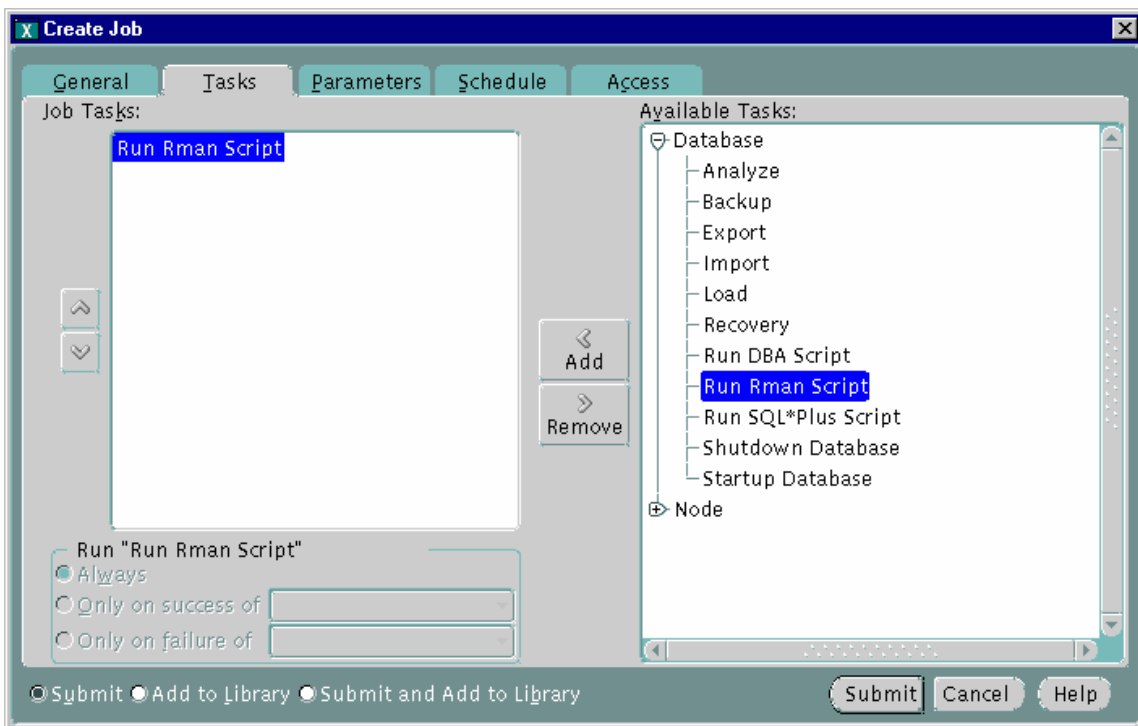
Create an RMAN job to validate the corrupt block and populate the corruption list.



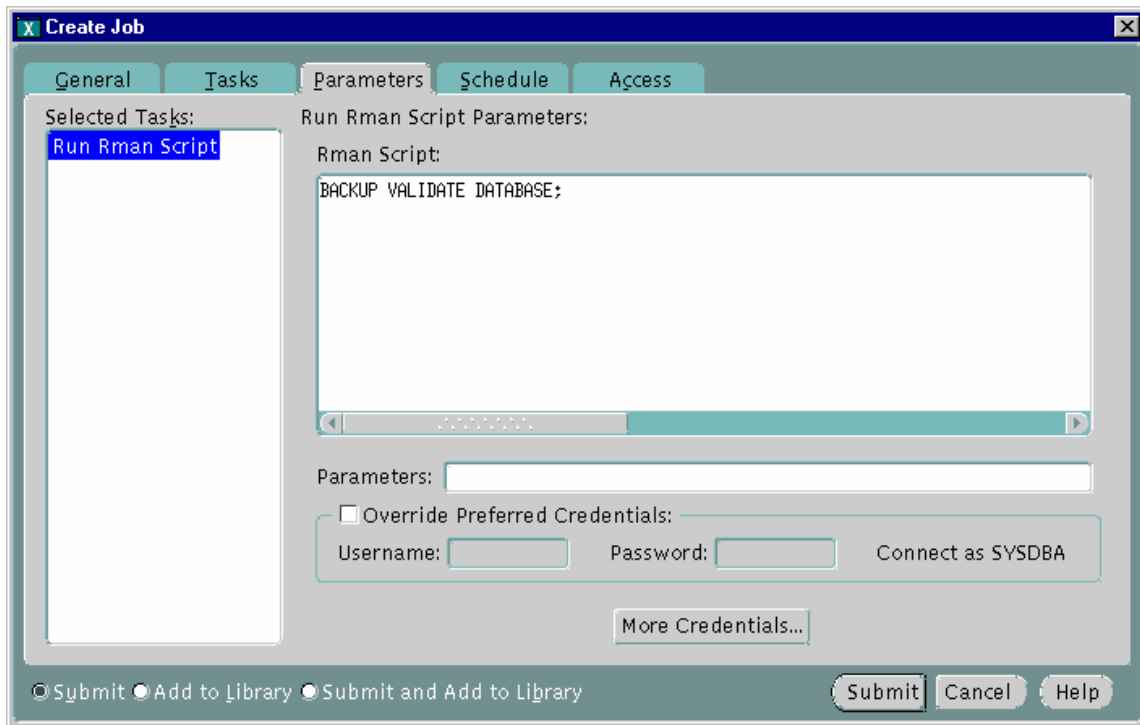
Select the database and provide a useful job name



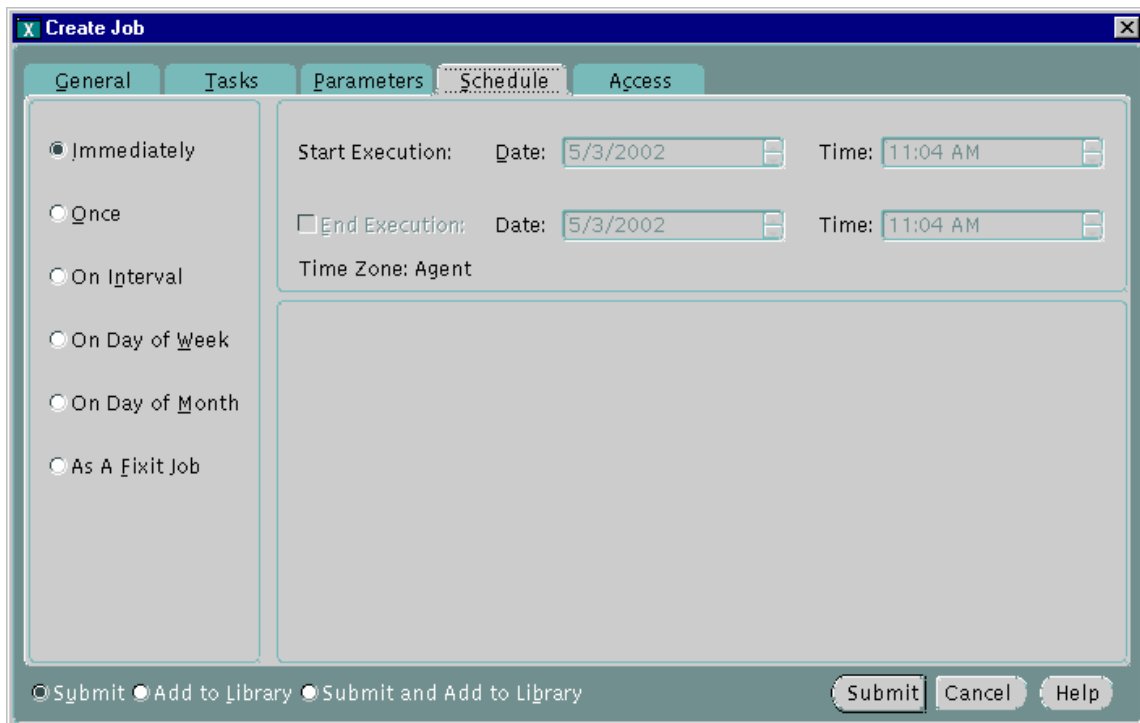
We want to run an RMAN script to validate the blocks in the database.



Create the backup validate script within the script test box.



Schedule to run immediately.



Select which repository admins may view this job

Owner: SYSMAN

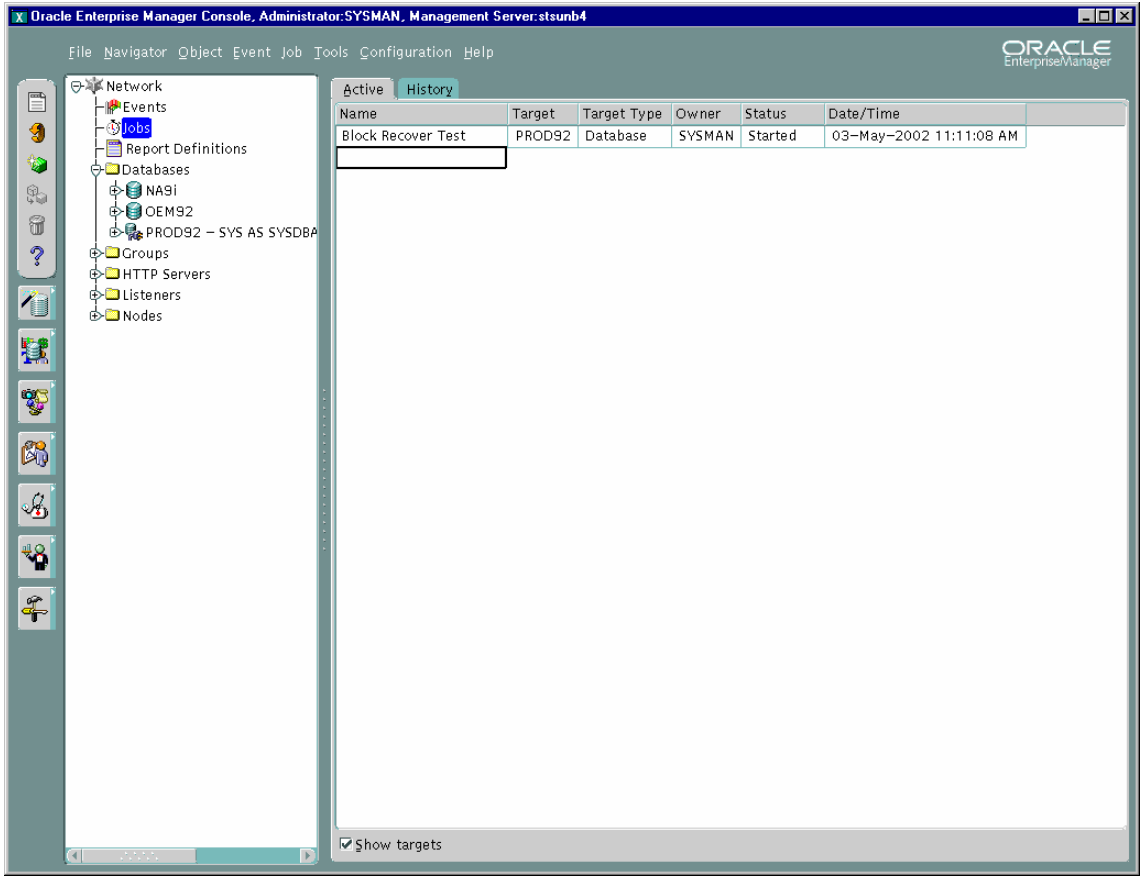
Administrator:	None	View	Modify	Full	Notify
REPORTS_USER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="checkbox"/>
SYSMAN	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="checkbox"/>

Show Notification Schedule

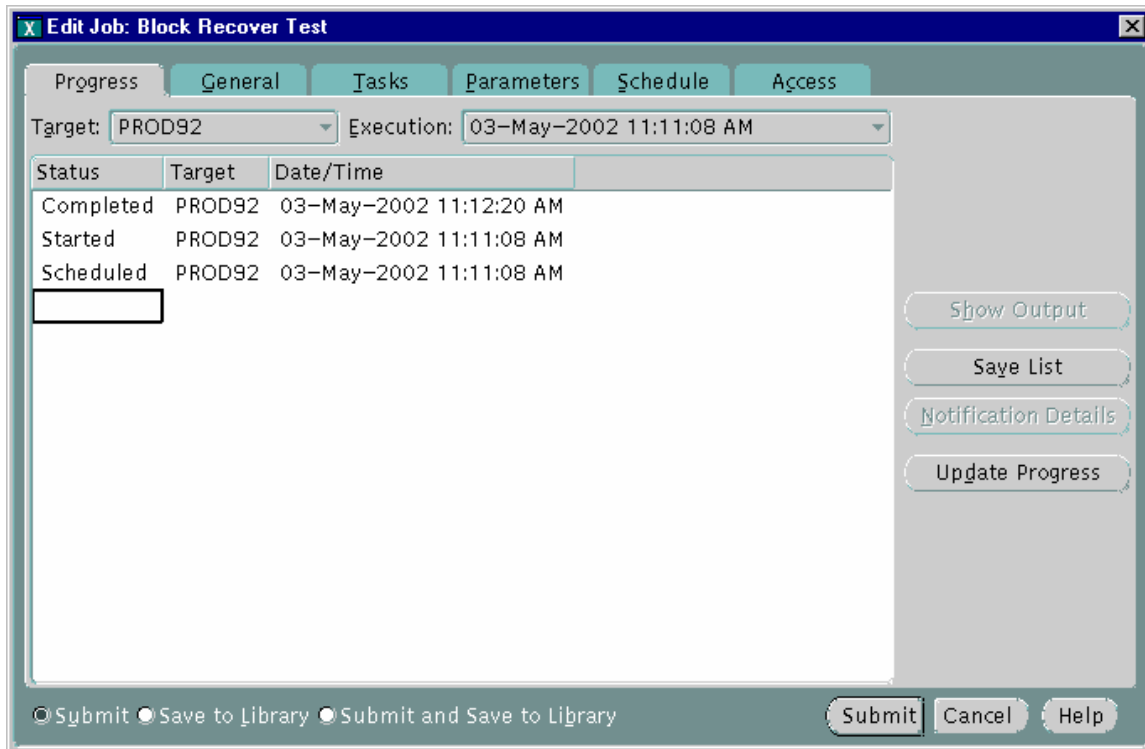
Submit Add to Library Submit and Add to Library

Submit Cancel Help

Submit the job to validate the database



Verify the results of the job when complete.



Reviewing the alert.log

```

Corrupt block relative dba: 0x0040c0ca (file 1, block 49354)
Fractured block found during backing up datafile
Data in bad block -
  type: 6 format: 2 rdba: 0x0040c0ca
  last change scn: 0x0000.0002e0c4 seq: 0x0 flg: 0x00
  consistency value in tail: 0xe0c40601
  check value in block header: 0x70c7, block checksum disabled
  spare1: 0x0, spare2: 0x0, spare3: 0x0
***
Reread of blocknum=49354,
file=/u01/app/oracle/product/9.2.0/oradata/PROD92/syst
em01.dbf. found same corrupt data

```

Review user_dump_dest

```

/u01/app/oracle/product/9.2.0/admin/PROD92/udump/prod92_ora_4415.trc
Oracle9i Enterprise Edition Release 9.2.0.0.0 - Beta
With the Partitioning, OLAP and Oracle Data Mining options
JServer Release 9.2.0.1.0 - Production
ORACLE_HOME = /u01/app/oracle/product/9.2.0
System name:      SunOS
Node name:        stsunb4
Release:          5.8
Version:          Generic_108528-06
Machine:          sun4u

```

Instance name: PROD92
Redo thread mounted by this instance: 1
Oracle process number: 17
Unix process pid: 4415, image: oracle@stsunb4 (TNS V1-V3)

*** SESSION ID:(15.9) 2002-05-03 11:12:14.065 ***
Corrupt block relative dba: 0x0040c0ca (file 1, block 49354)
Fractured block found during backing up datafile
Data in bad block -
type: 6 format: 2 rdba: 0x0040c0ca
last change scn: 0x0000.0002e0c4 seq: 0x0 flg: 0x00
consistency value in tail: 0xe0c40601
check value in block header: 0x70c7, block checksum disabled
spare1: 0x0, spare2: 0x0, spare3: 0x0

Reread of blocknum=49354,
file=/u01/app/oracle/product/9.2.0/oradata/PROD92/syst
em01.dbf. found same corrupt data

Now let's verify the corruption using V\$BACKUP_CORRUPTION (blocks listed here are blocks that have been corrupted but may have been repaired already.) Provides a history of the database corruption.

```
SQL> select file#, block#, blocks, corruption_type  
2 from v$backup_corruption;
```

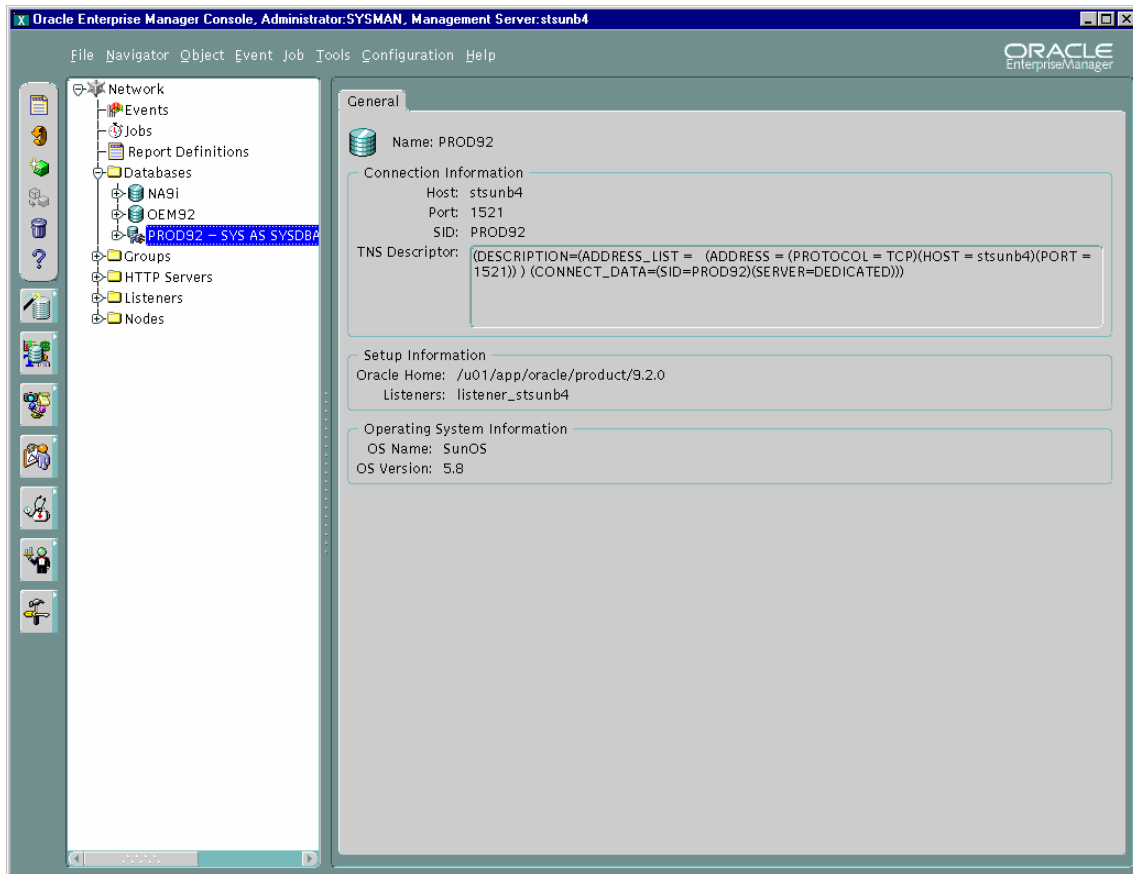
FILE#	BLOCK#	BLOCKS	CORRUPTIO
1	49354	1	FRACTURED

V\$DATABASE_BLOCK_CORRUPTION (What is currently corrupt and not repaired in the database) If block are not here but are in v\$backup_corruption the blocks were already repaired and the entries were removed from the corruption list in v\$database_corruption_list.

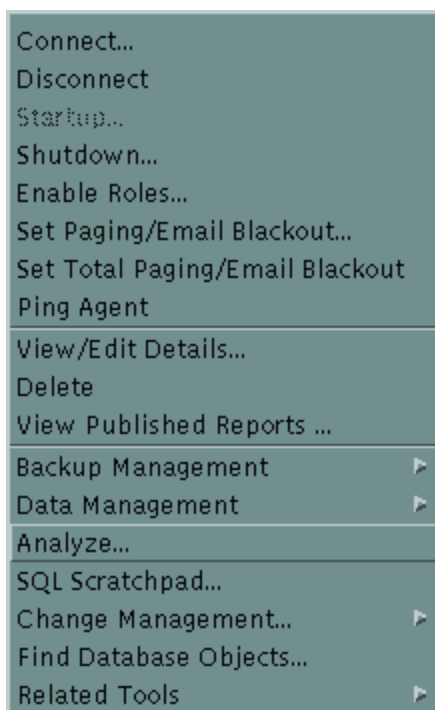
```
SQL> select * from v$database_block_corruption;
```

FILE#	BLOCK#	BLOCKS	CORRUPTION_CHANGE#	CORRUPTIO
1	49354	1	0	FRACTURED

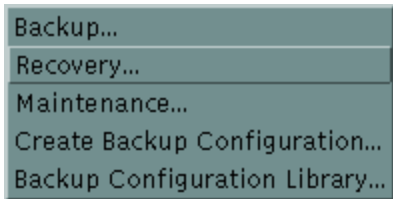
Then start EM Recovery Wizard to start a block level recovery session.



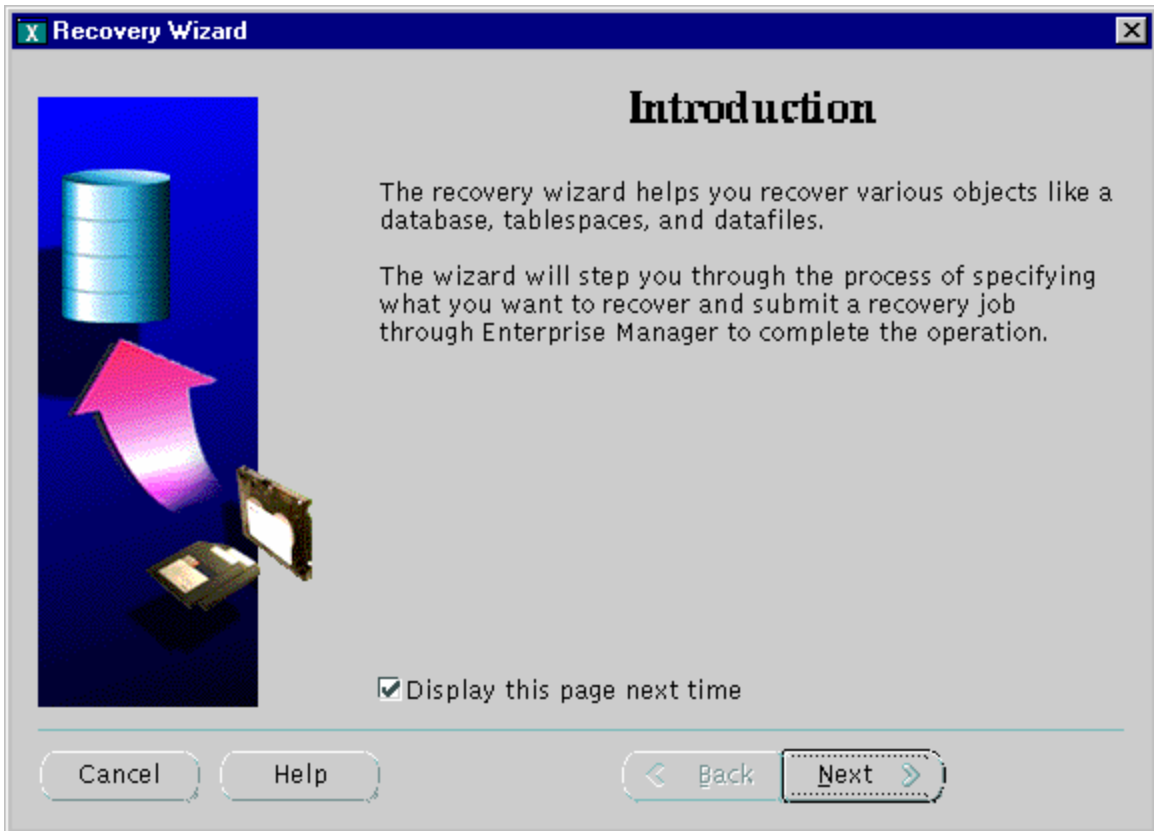
Select the Backup Management option



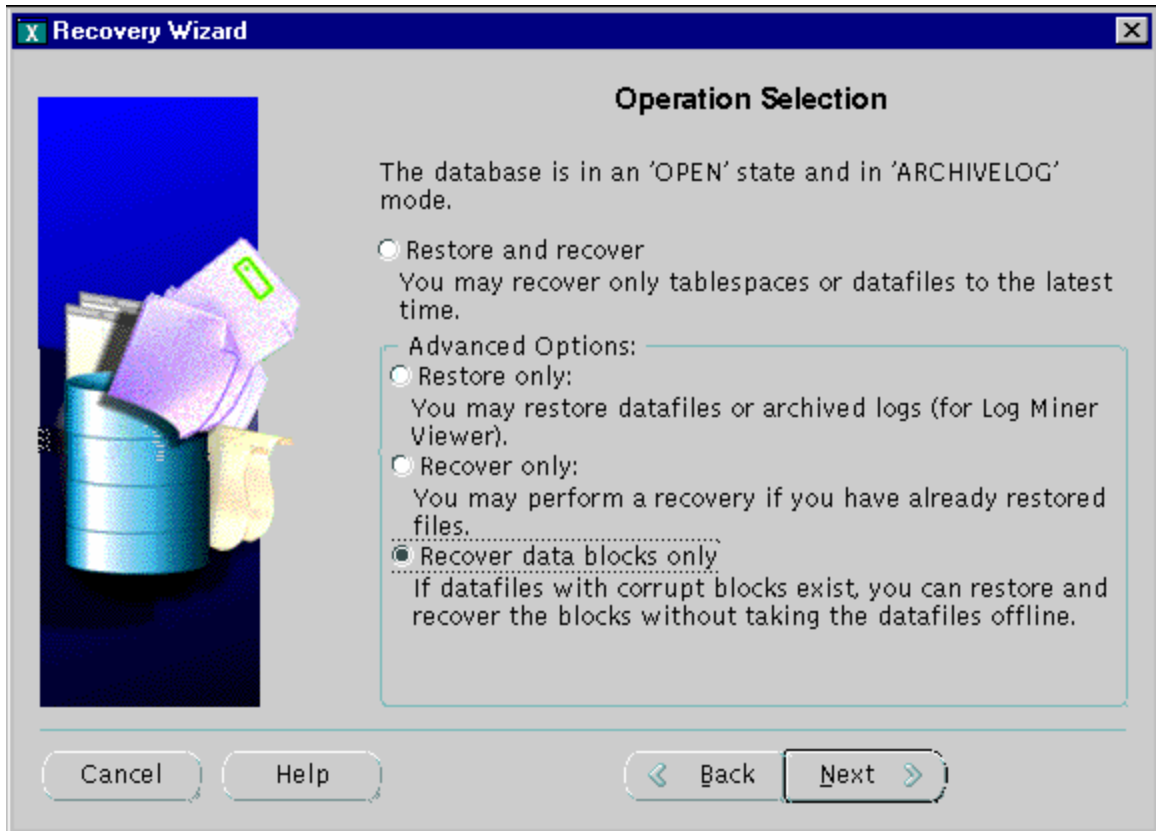
Then Recovery



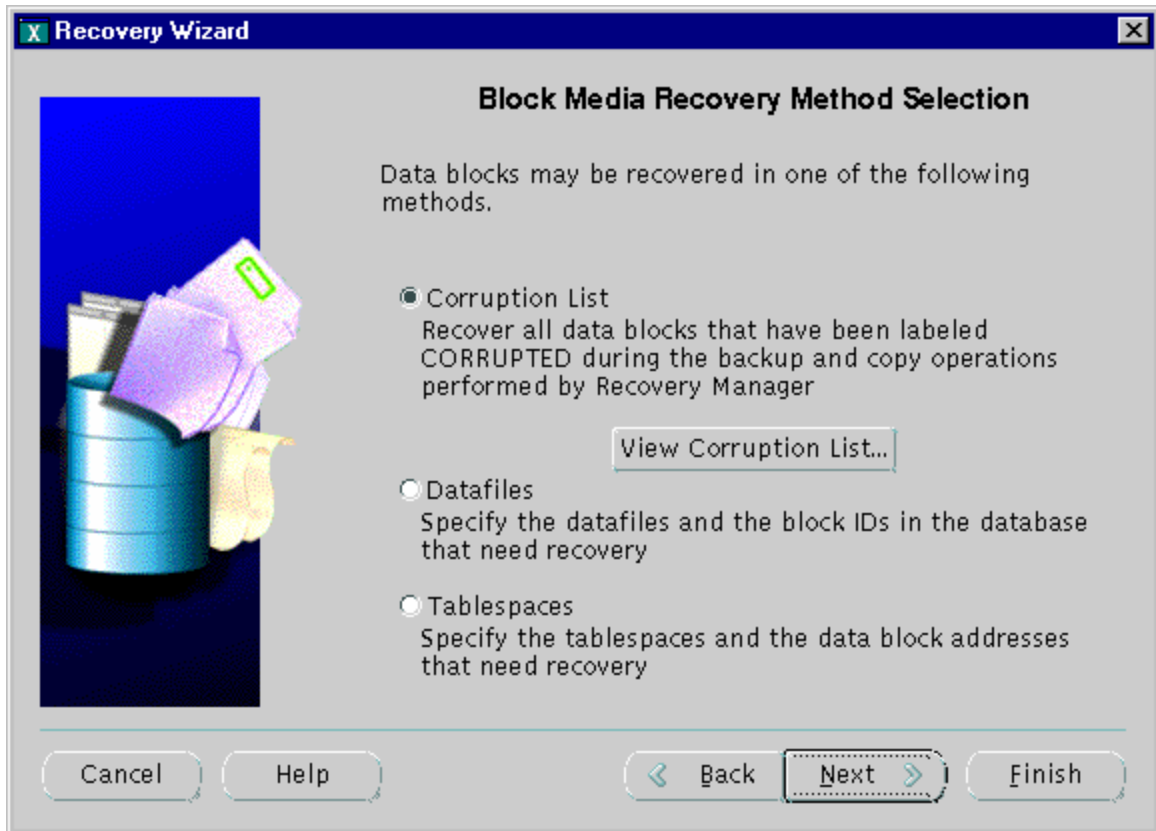
The splash Screen



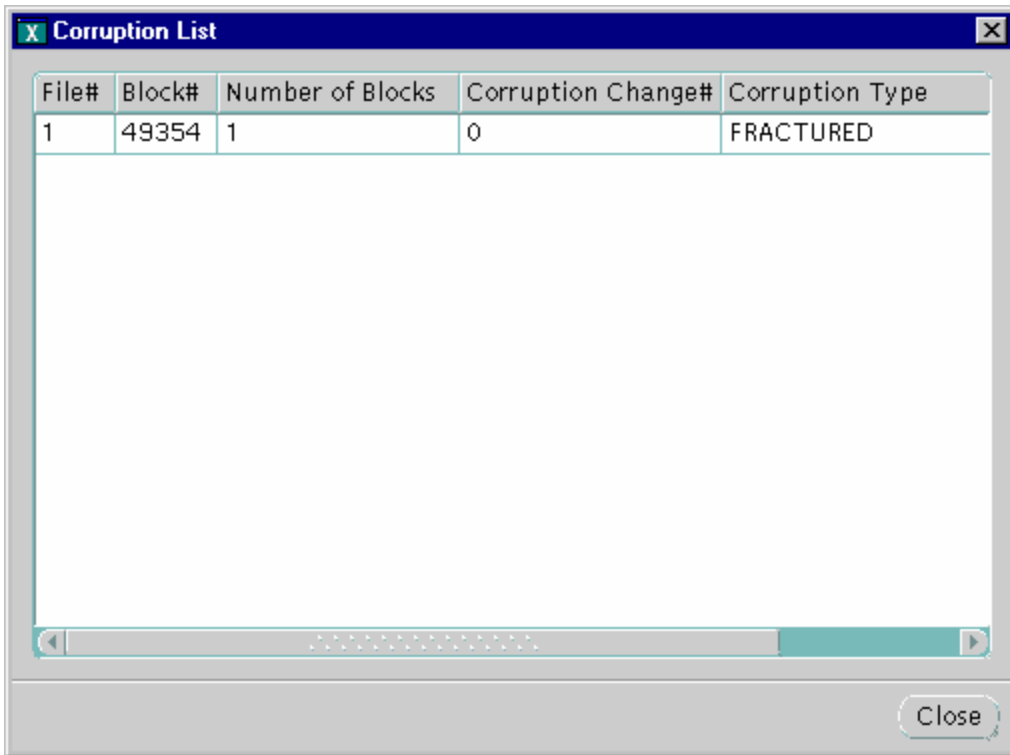
Select "Recover Data Blocks Only" option



The "Corruption List" option is selected by default



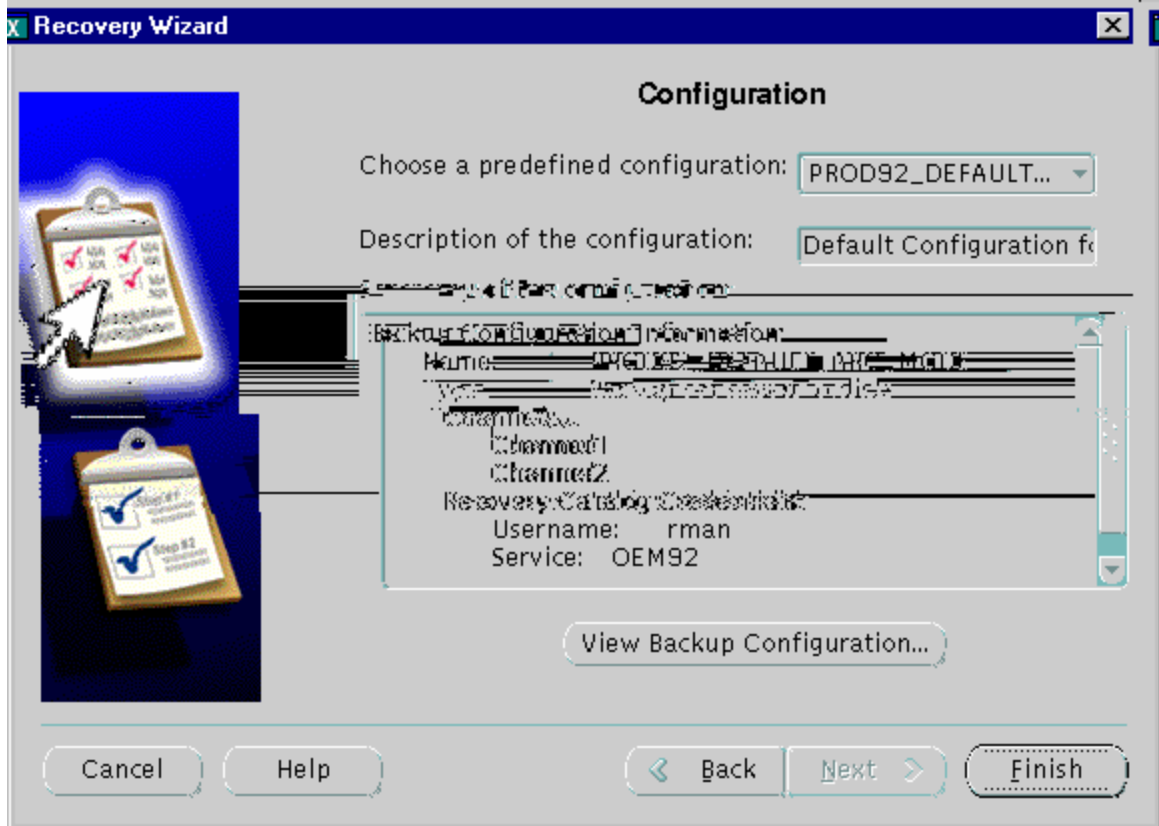
View the Corruption List in EM
These are the blocks that EM and RMAN will work on.



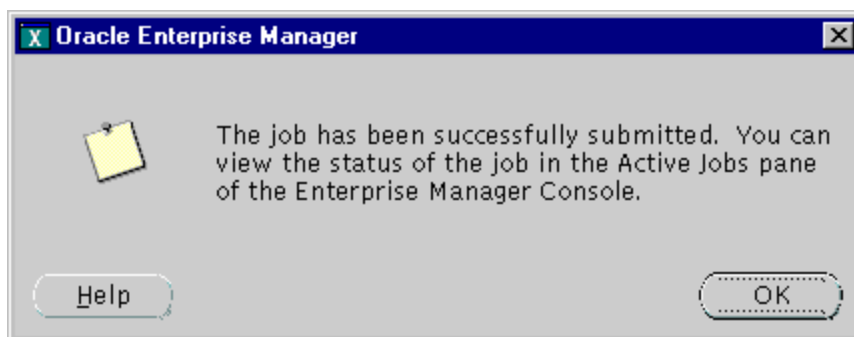
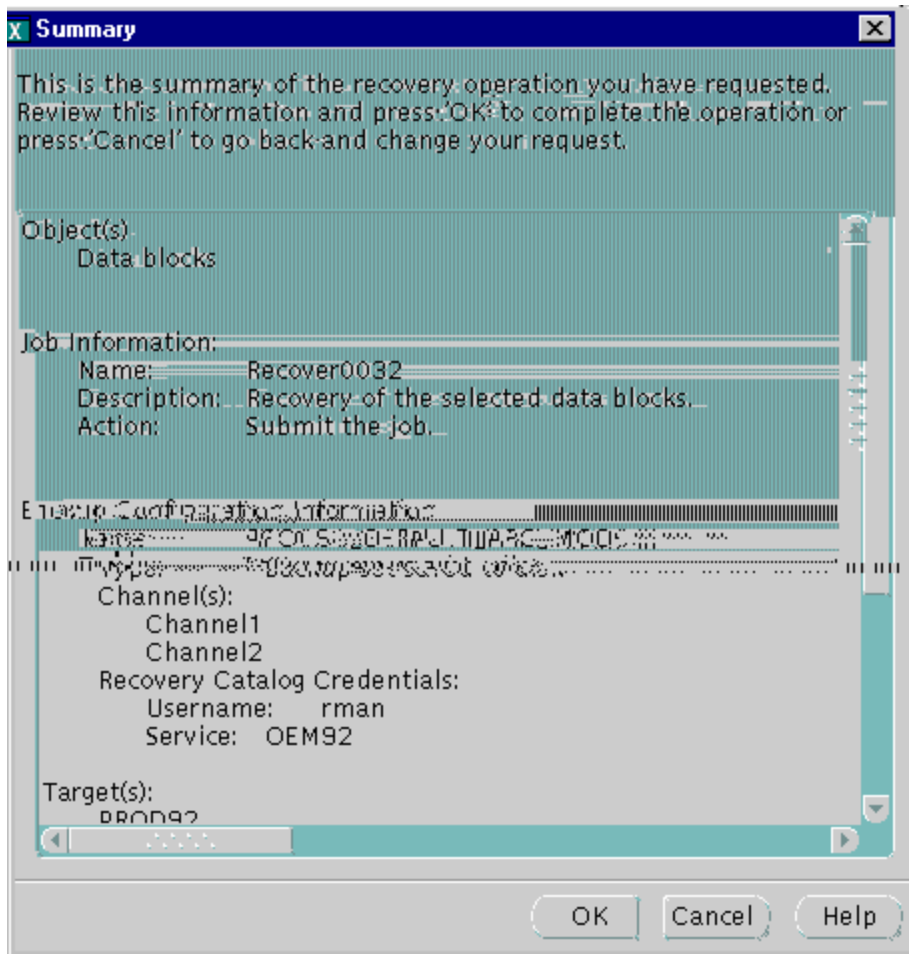
The image shows a window titled "Corruption List" with a table containing one row of data. The table has five columns: File#, Block#, Number of Blocks, Corruption Change#, and Corruption Type. The data row shows File# 1, Block# 49354, Number of Blocks 1, Corruption Change# 0, and Corruption Type FRACTURED. A scrollbar is visible at the bottom of the table area, and a "Close" button is located in the bottom right corner of the window.

File#	Block#	Number of Blocks	Corruption Change#	Corruption Type
1	49354	1	0	FRACTURED

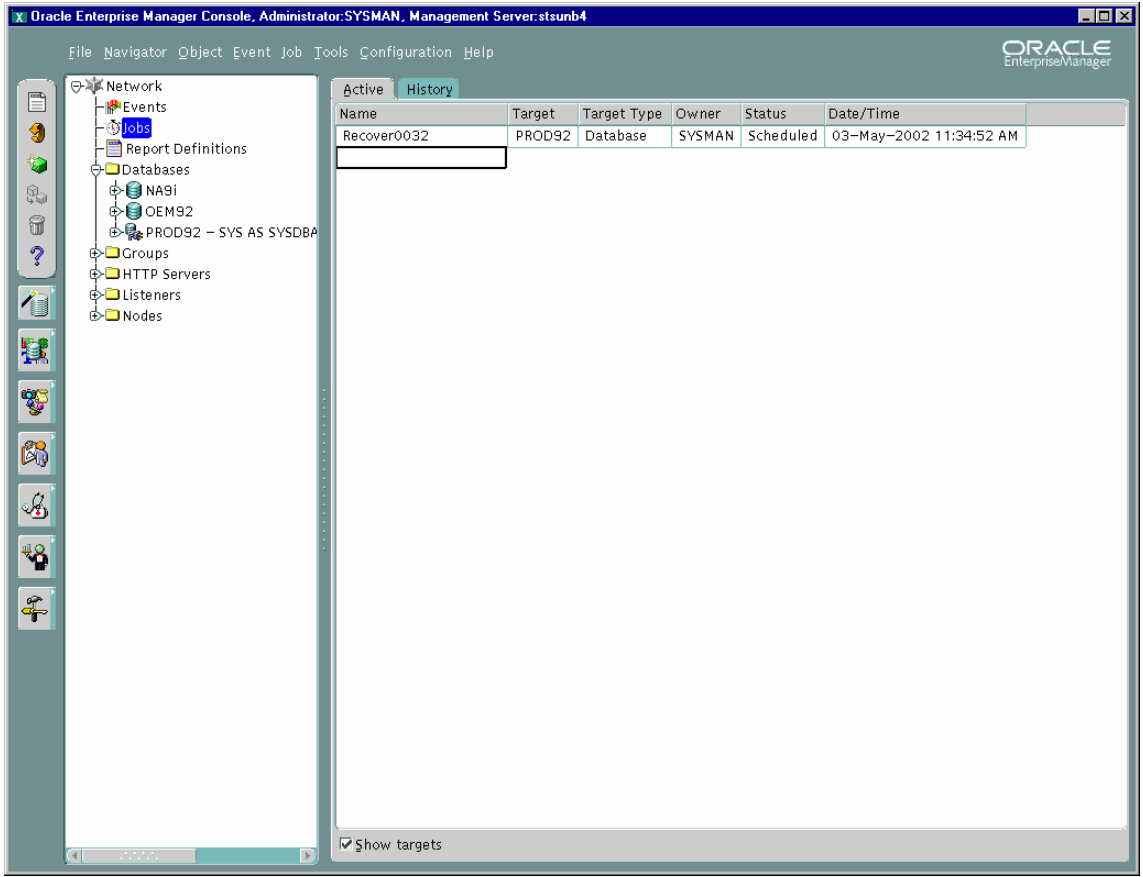
The Backup configuration Review screen appears.



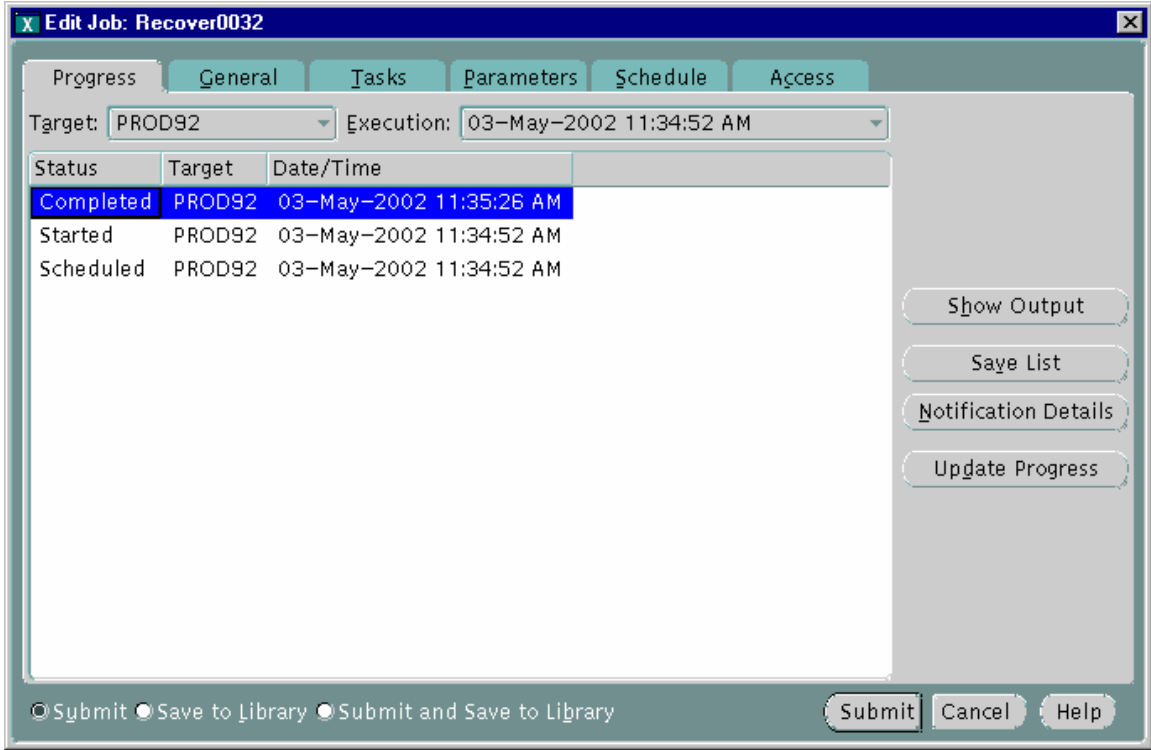
Job Summary



Job is submitted to the EM job system



When job disappears from the active job window review the completion status in the job history



Then drill down to the job output to review the work that was done.



```
Recovery Manager: Release 9.2.0.0.0 - Beta
Copyright (c) 1995, 2002, Oracle Corporation. All rights reserved.
RMAN> 2>
connected to target database: PROD92 (DBID=1994000855)

RMAN>
connected to recovery catalog database

RMAN>
RMAN> run {
2> allocate channel Channel1 type disk format '/u02/backup/prod92/%d_OEM_%U';
3> allocate channel Channel2 type disk format '/u02/backup/prod92/%d_OEM_%U';
4> blockrecover corruption list ;
5>
6> }
allocated channel: Channel1
channel Channel1: sid=12 devtype=DISK

allocated channel: Channel2
channel Channel2: sid=16 devtype=DISK
|
Starting blockrecover at MAY 03 2002 11:35:00

channel Channel1: restoring block(s)
channel Channel1: specifying block(s) to restore from backup set
restoring blocks of datafile 00001
channel Channel1: restored block(s) from backup piece 1
piece handle=/u02/backup/prod92/PROD92_OEM_1mdnhbr9_1_1 tag=TAG20020503T100737 params=NULL
channel Channel1: block restore complete

starting media recovery
media recovery complete

Finished blockrecover at MAY 03 2002 11:35:24
released channel: Channel1
released channel: Channel2

RMAN>
RMAN> **end-of-file**

RMAN>
```

Then Review where the corruption was reported to verify it is repaired.
Remember that v\$backup_corruption is the database corruption history.

```
SQL> select file#, block#, blocks, corruption_type
2 from v$backup_corruption;
```

```
FILE#      BLOCK#      BLOCKS CORRUPTIO
-----
```

```
1          49354          1 FRACTURED
```

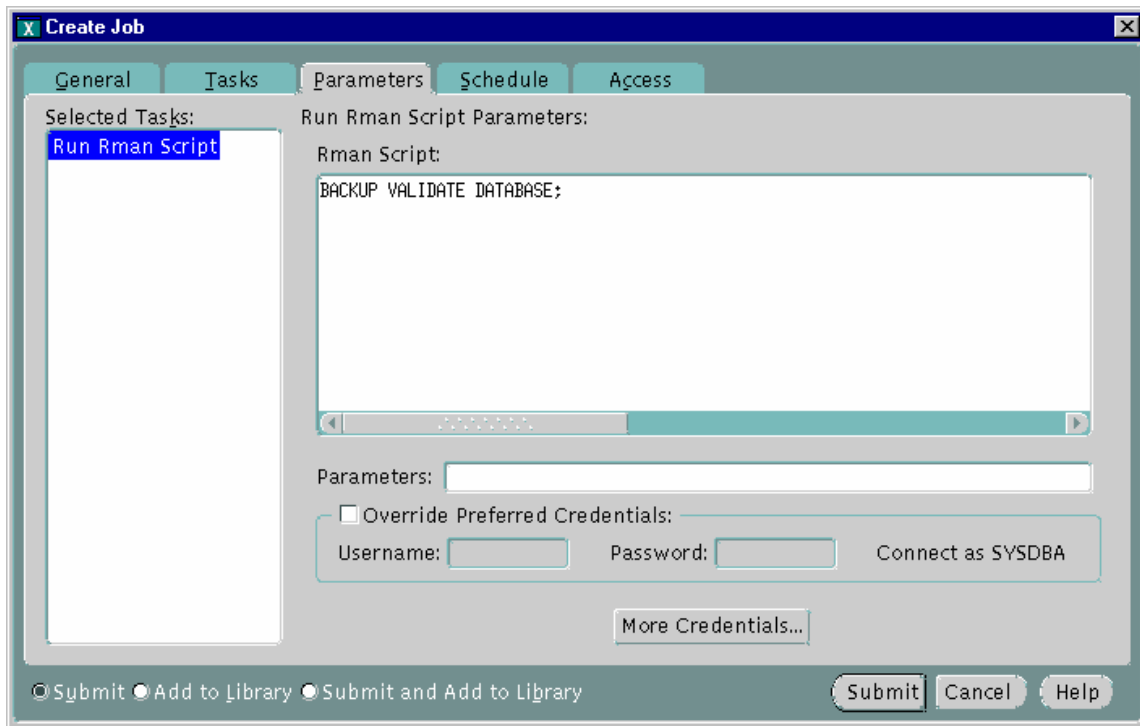
Then review the v\$database_block_corruption view again

```
SQL> select * from v$database_block_corruption ;
```

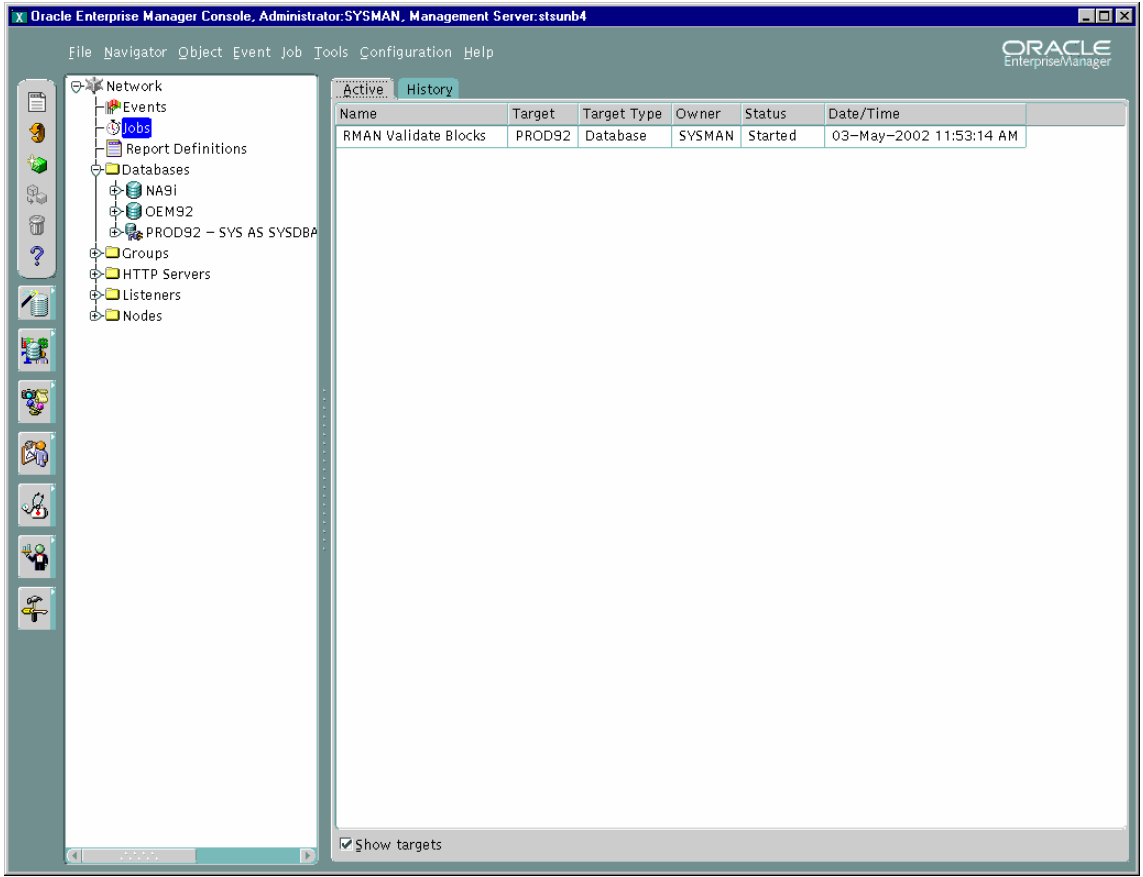
FILE#	BLOCK#	BLOCKS	CORRUPTION_CHANGE#	CORRUPTIO
1	49354	1	0	FRACTURED

We are still showing the block as currently corrupt.

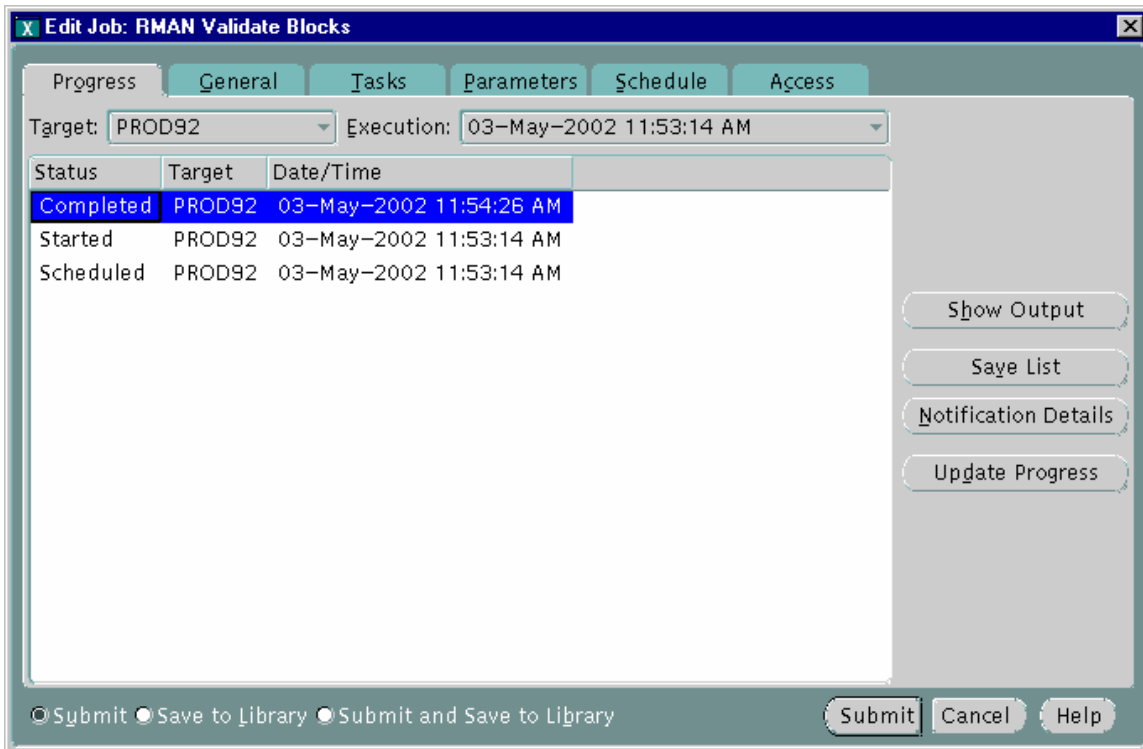
This is because we need to run another RMAN job to validate the database again so the v\$database_block_corruption view may be updated with current status of the database blocks.



Submit the job to run immediately



When it completes in 'JOB HISTORY' review the completion status



Then open the output to verify no errors.

```

X Job Output
Recovery Manager: Release 9.2.0.0.0 - Beta

Copyright (c) 1995, 2002, Oracle Corporation. All rights reserved.

RMAN> 2>
connected to target database: PROD92 (DBID=1994000855)
using target database controlfile instead of recovery catalog

RMAN>
RMAN> BACKUP VALIDATE DATABASE;
Starting backup at 03-MAY-02
allocated channel: ORA_DISK_1
channel ORA_DISK_1: sid=12 devtype=DISK
channel ORA_DISK_1: starting full datafile backupset
channel ORA_DISK_1: specifying datafile(s) in backupset
input datafile fno=00001 name=/u01/app/oracle/product/9.2.0/oradata/PROD92/system01.dbf
input datafile fno=00002 name=/u01/app/oracle/product/9.2.0/oradata/PROD92/undotbs01.dbf
input datafile fno=00005 name=/u01/app/oracle/product/9.2.0/oradata/PROD92/example01.dbf
input datafile fno=00010 name=/u01/app/oracle/product/9.2.0/oradata/PROD92/xdbs01.dbf
input datafile fno=00006 name=/u01/app/oracle/product/9.2.0/oradata/PROD92/indx01.dbf
input datafile fno=00009 name=/u01/app/oracle/product/9.2.0/oradata/PROD92/users01.dbf
input datafile fno=00003 name=/u01/app/oracle/product/9.2.0/oradata/PROD92/cwmlite01.dbf
input datafile fno=00004 name=/u01/app/oracle/product/9.2.0/oradata/PROD92/drsys01.dbf
input datafile fno=00007 name=/u01/app/oracle/product/9.2.0/oradata/PROD92/odm01.dbf
input datafile fno=00008 name=/u01/app/oracle/product/9.2.0/oradata/PROD92/tools01.dbf
channel ORA_DISK_1: backup set complete, elapsed time: 00:01:05
Finished backup at 03-MAY-02

RMAN> **end-of-file**

RMAN>

Recovery Manager complete.

```

Now lets look in the database again at the corruption views.

```
SQL> select file#, block#, blocks, corruption_type
2 from v$backup_corruption;
```

FILE#	BLOCK#	BLOCKS	CORRUPTIO
1	49354	1	FRACTURED

The history of the corruption is still in v\$backup_corruption. This is expected behavior.

```
SQL> select * from v$database_block_corruption;
```

no rows selected

There are no blocks currently corrupt in this database. The corruption has been effectively repaired by EM and RMAN.

Now select from the scott.emp table to verify again the error is not raised.

```
SQL> select count(*) from scott.emp;
```

```
  COUNT(*)  
-----  
         14
```

No errors returned to the user.

Operation completed successfully.

Sources:

Oracle Recovery Managers Guides
Oracle Enterprise Manager Backup Wizard Documentation
Backup/Recovery/Maintenance Wizards Functional Specs.
Testing the product.