

## Создание NetBackup политики (Oracle Intelligent Policy) для БД Oracle (SAP)

### А) Установка агента NB и Регистрация экземпляра БД Oracle на NB мастер-сервере.

1. Устанавливаем NetBackup (NB) клиента на Linux-хост с БД Oracle.
2. Проверяем, что в каталоге установки NB есть ссылка на lib в \$ORACLE\_HOME/lib/libobk.so  
`# ls /usr/opensv/netbackup/bin/libobk.*`  
 Если нет, создаём:  
`# cd $ORACLE_HOME/lib/`  
`# ln -s /usr/opensv/netbackup/bin/libobk.so64 libobk.so`
3. После регистрации клиента на NB мастер-сервере, в NB админ-консоле в разделе «NetBackup Management» -> Applications -> Oracle -> All Instances должен появиться наш инстанс БД Oracle.
4. В БД Oracle надо использовать (если нет – создать) пользователя с ролями CONNECT, SYSBACKUP, например так:  
`SQL> CREATE USER BackupAdmin;`  
`SQL> ALTER USER BackupAdmin IDENTIFIED BY <passwd *с первой буквы>;`  
`SQL > GRANT CONNECT, SYSBACKUP TO BackupAdmin;`  
 \*отъем/удаление: `REVOKE SYSBACKUP from BackupAdmin / DROP USER BackupAdmin`
5. Заходим в Instance Groups на NB админ-консоли и создаем группу.
6. В свойствах группы указываем имя группы – HRP-19-SAP, user BackupAdmin и его пароль:

**New Instance Group**

Instance Group Name:

Instance credentials

☐ OS authentication only (UNIX and or Windows)

☒ Oracle authentication only

☐ Oracle and OS authentication (UNIX and or Windows)

Oracle instance credentials

User name:

Password:

Optional

Net service name:

(TNS alias)

UNIX OS credentials

User name:

Password:

Windows OS credentials

User name:

Password:

Domain:

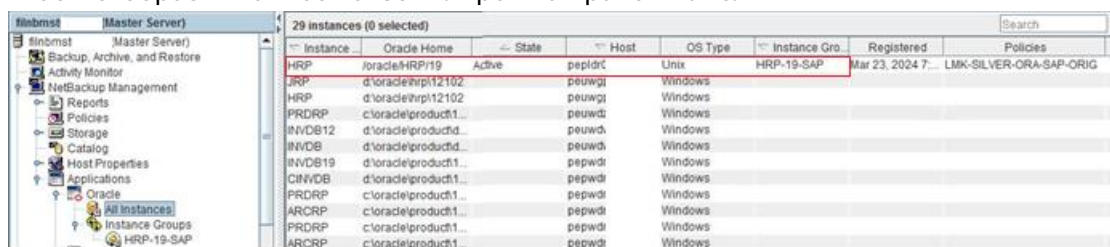
Oracle RMAN recovery catalog credentials

☐ Use Oracle RMAN recovery catalog

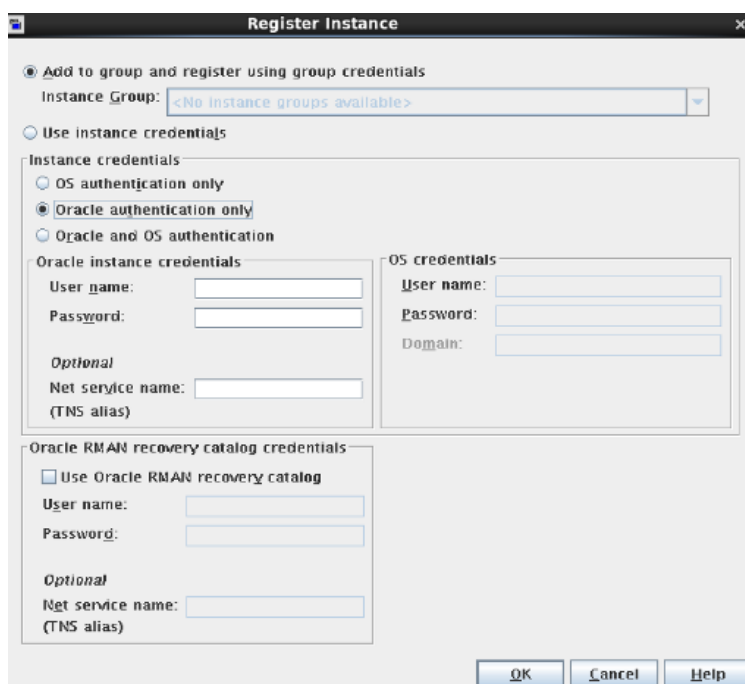
User name:

Имя вновь созданной группы экземпляров появится на левой панели.

7. Чтобы назначить отдельные экземпляры этой группе, нажмите «**All instances**» на левой панели, чтобы отобразить список экземпляров на правой панели.



8. Щёлкните правой кнопкой мыши по нужному экземпляру и выберите **Зарегистрировать**, чтобы отобразилась следующая панель. Вы можете использовать клавиши **Ctrl** и **Shift**, чтобы выбрать несколько экземпляров для регистрации.



9. Убедитесь, что выбрана галка “Добавить в группу и зарегистрироваться с использованием учётных данных группы”. С помощью раскрывающегося меню “Группа инстансов” выберите группу инстансов, в которую вы хотите добавить инстанс (HRP-19-SAP), затем нажмите **OK**.
10. Повторите для каждого экземпляра, который вы хотите включить в группу экземпляров.

## В) Создание NB политики для БД Oracle:

11. С помощью NB админ-консоли создаем политику и указываем ей тип – Oracle:

Change Policy - LMK-SILVER-ORA-SAP-ORIG

Server: flnbmst

Attributes Schedules Instances and Databases Backup Selections Oracle

Policy type: Oracle

Destination: Silver

Data classification: Silver

Policy storage: pepwis .hcart-tld-23-onsite

Policy volume pool: RUSS-LMK-TLD23-ORA

Take checkpoints every: 0 minutes

Limit jobs per policy: 0

Job priority: 0 (higher number is greater priority)

Media Owner: Any

Snapshot Client and Replication Director

Perform block level incremental backups

Use Replication Director

Enable vendor change tracking for incremental back...

Perform snapshot backups

Retain snapshot for Instant Recovery or SLP management

Go into effect at: Dec 3, 2023 6:14:00 PM

Follow NFS

Cross mount points

Compress

Encrypt

Collect disaster recovery information for:

Bare Metal Restore

Collect true image restore information

with move detection

(Required for synthetic backups and Bare Metal Restore)

Allow multiple data streams

Disable client-side deduplication

Enable granular recovery

Use Accelerator

Enable optimized backup of Windows deduplicated volumes

Keyword phrase (optional):

Microsoft Exchange Server Attributes

Exchange DAG or Exchange 2007 replication (LCR/CCR)

Change Policy - LMK-SILVER-ORA-SAP-ORIG

Server: flnbmst

Attributes Schedules Instances and Databases Backup Selections Oracle

|     | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 |
|-----|---|---|---|---|----|----|----|----|----|----|----|----|
| Sun | + | + | + | + | +  | +  | +  | +  | +  | +  | +  | +  |
| Mon | + | + | + | + | +  | +  | +  | +  | +  | +  | +  | +  |
| Tue | + | + | + | + | +  | +  | +  | +  | +  | +  | +  | +  |
| Wed | + | + | + | + | +  | +  | +  | +  | +  | +  | +  | +  |
| Thu | + | + | + | + | +  | +  | +  | +  | +  | +  | +  | +  |
| Fri | + | + | + | + | +  | +  | +  | +  | +  | +  | +  | +  |
| Sat | + | + | + | + | +  | +  | +  | +  | +  | +  | +  | +  |

| Name                       | Type | Synthetic B... | Disk-Only B... | Retention P... | Retention L... | Frequency | Media Multi... | Storage      | Volume Pool  | Policy       | Media Owner | Accelerator |
|----------------------------|------|----------------|----------------|----------------|----------------|-----------|----------------|--------------|--------------|--------------|-------------|-------------|
| HRP-Arch Archived Re...    | ...  | No             | No             | 4 weeks        | 10 4 hours     | 10        | 10             | DSU_LMK_...  | LMK-SILVE... | LMK-SILVE... | No          | No          |
| HRP-Full Full Backup       | ...  | No             | No             | 4 weeks        | 10 1 week      | 10        | 10             |              | LMK-SILVE... | LMK-SILVE... | No          | No          |
| HRP-Incr Differential L... | ...  | No             | No             | 4 weeks        | 10 1 day       | 10        | 10             | RUSS-LMK_... | LMK-SILVE... | LMK-SILVE... | No          | No          |

Change Policy - LMK-SILVER-ORA-SAP-ORIG

Server: flnbmst

Attributes Schedules Instances and Databases Backup Selections Oracle

Select

Protect Instances and Databases

Protect instance groups

Clients for use with scripts or templates

Instance Group

HRP-19-SAP

Change Policy - LMK-SILVER-ORA-SAP-ORIG

Server: flnbmst

Attributes Schedules Instances and Databases Backup Selections Oracle

Whole database

Partial database - Tablespace

Partial database - Datafiles

Fast Recovery Area(FRA)

Database Backup Shares

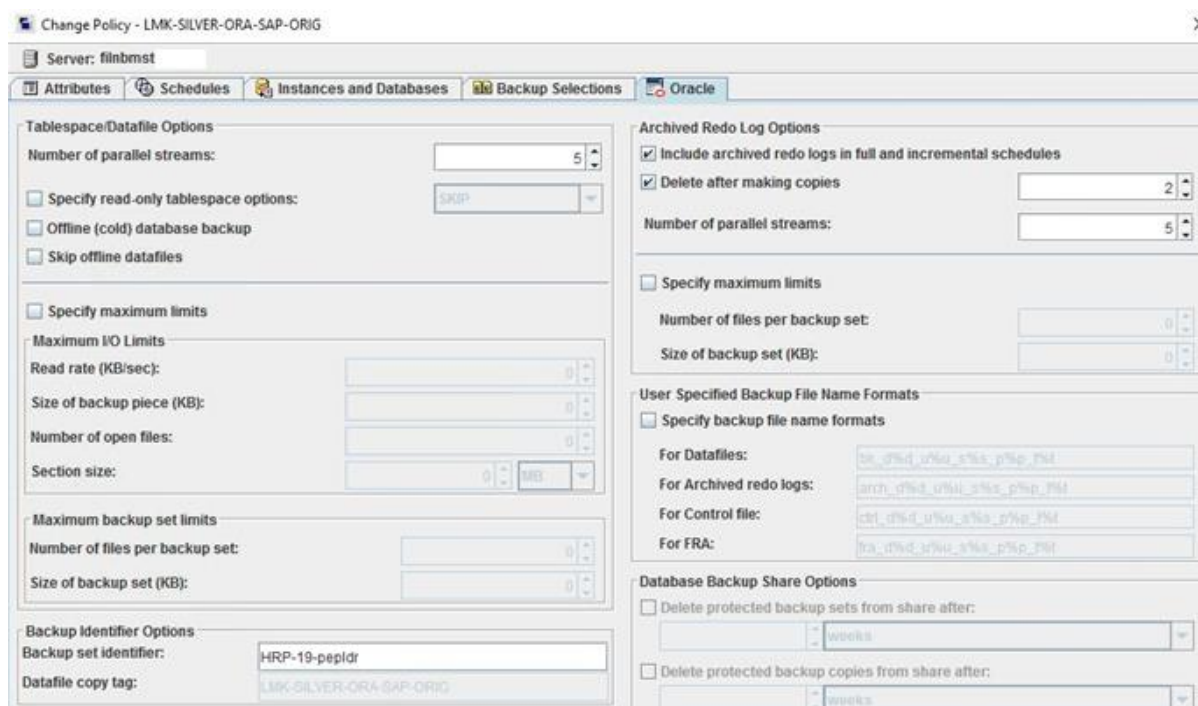
Whole Database - Datafile Copy Share

Backup Selection List

WHOLE\_DATABASE

Автор – Коновалов С.П.

Если выбрать “Partial database – Tablespace” мы должны увидеть все таблеспейсы БД в окне “Backup Selection List”. Если нет – то кренделя к БД Oracle неправильные (см. п. 4).



И наконец закладка “Oracle”, которая появляется, когда мы указываем тип политики – Oracle.

Наибольший интерес – разделы “Tablespace/Datafile Options” и “Archived Redo Log Options”.

В них указывается количество параллельных потоков RMAN (5), которое влияет на скорость бэкапа (\*бесконтрольное увеличение может упереться в скорость среды передачи данных и вызывать ошибки).

Тут же указывается, включать ли в Full и Incr-бэкапы файлов данных БД ещё и Arch-Redo-Log-файлы.

Также же указано после какого количества копий Arch-Redo-Log-файлов удалять их из FS и таким образом делать sparse-рекламацию для создания следующих Arch-Redo-Log-файлов. Если это не выполнять после бэкапов, рано или поздно доступное дисковое пространство закончится и БД засuspendиться не имея возможность создавать новые архивные журналы. В данном случае - удалять после 2х бэкапов.

Если БД очень активно пишет, Arch-Redo-Log-файлы могут быстро заполнить всё доступное free-disk-space в FS и избегая этого, а также сокращая RPO, можно зашедулить их отдельный бэкап в этой же бэкап-политики с последующим удалением в Full/Incr бэкапах файлов данных БД (как в нашем случае). После запуска бэкапа, можно смотреть RMAN-лог, пример см. ниже.

Фрагмент NB и RMAN-логов Incr-бэкапа:

```
Dec 11, 2023 6:00:09 PM - Info bphdb (pid=1985630) Backup started
Dec 11, 2023 6:00:09 PM - Info bphdb (pid=1985630) connect time: 0:00:00
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
*****
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - Backup Information:
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - Client: pepldr[REDACTED].pi.pvt
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - ORACLE_SID: HRP
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - ORACLE_HOME: /oracle/HRP/19
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - Online (Hot) Stream backup requested
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - Objects being backed up:
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - Whole Database
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - Archive Logs
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - Control File
```

Автор – Коновалов С.П.

```

Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
    Number of channels to allocate (database): 5
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
    Number of channels to allocate (archive logs): 5
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - Oracle Authentication is being used
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
    RMAN Default Limits will be used (Database)
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
    RMAN Default Limits will be used (Archive Logs)
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - Backup Set Identifier: HRP-19-
pepldr
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - Backup File Name Formats:
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
    Database: bk_d%d_u%u_s%s_p%p_t%t
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
    Archive Log: arch_d%d_u%u_s%s_p%p_t%t
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
    Control File: ctrl_d%d_u%u_s%s_p%p_t%t
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - End of Backup Information
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
    *****
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - Database status is: OPEN
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - Database open mode is: READ WRITE
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - ARCHIVE LOG mode is: ARCHIVELOG
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - CDB mode: NOT ENABLED
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - Starting Oracle Recovery Manager.
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - Using: /oracle/HRP/19/bin/rman
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
    Connection info: target "BackupAdmin/***** as sysbackup" nolog
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - Start of Recovery Manager input.
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - # -----
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Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - # RMAN command section
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - # -----
-----
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - RUN {
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - ALLOCATE CHANNEL ch00
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - TYPE 'SBT_TAPE'
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
    PARMS 'SBT_LIBRARY=/usr/opensv/netbackup/bin/libobk.so64, ENV=(NB_ORA_SID=HRP,NB_ORA_HOME=/o
racle/HRP/19,NB_ORA_CLIENT=pepldr
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - ALLOCATE CHANNEL ch01
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - TYPE 'SBT_TAPE'
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
    PARMS 'SBT_LIBRARY=/usr/opensv/netbackup/bin/libobk.so64, ENV=(NB_ORA_SID=HRP,NB_ORA_HOME=/o
racle/HRP/19,NB_ORA_CLIENT=pepldr
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - ALLOCATE CHANNEL ch02
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - TYPE 'SBT_TAPE'
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
    PARMS 'SBT_LIBRARY=/usr/opensv/netbackup/bin/libobk.so64, ENV=(NB_ORA_SID=HRP,NB_ORA_HOME=/o
racle/HRP/19,NB_ORA_CLIENT=pepldr
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - ALLOCATE CHANNEL ch03
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - TYPE 'SBT_TAPE'
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
    PARMS 'SBT_LIBRARY=/usr/opensv/netbackup/bin/libobk.so64, ENV=(NB_ORA_SID=HRP,NB_ORA_HOME=/o
racle/HRP/19,NB_ORA_CLIENT=pepldr
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - ALLOCATE CHANNEL ch04
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - TYPE 'SBT_TAPE'
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
    PARMS 'SBT_LIBRARY=/usr/opensv/netbackup/bin/libobk.so64, ENV=(NB_ORA_SID=HRP,NB_ORA_HOME=/o
racle/HRP/19,NB_ORA_CLIENT=pepldr
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
    SEND 'NB_ORA_SERV=filmnmst,NB_ORA_POLICY=LMK-SILVER-ORA-SAP-
LNX,NB_ORA_PARENT_JOBID=395750,NB_ORA_SCHED=HRP-Incr';
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - BACKUP
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - INCREMENTAL LEVEL=1
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - FORMAT 'bk_d%d_u%u_s%s_p%p_t%t'
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - TAG 'HRP-19-pepldr
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - DATABASE;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - RELEASE CHANNEL ch00;

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Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - RELEASE CHANNEL ch01;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - RELEASE CHANNEL ch02;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - RELEASE CHANNEL ch03;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - RELEASE CHANNEL ch04;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - # Backup Archived Logs
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - sql 'alter system archive log current';
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - ALLOCATE CHANNEL ch00
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - TYPE 'SBT_TAPE'
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
PARMS 'SBT_LIBRARY=/usr/opensv/netbackup/bin/libobk.so64, ENV=(NB_ORA_SID=HRP,NB_ORA_HOME=/o
racle/HRP/19,NB_ORA_CLIENT=pepldr[REDACTED].pi.pvt,)' ;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - ALLOCATE CHANNEL ch01
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - TYPE 'SBT_TAPE'
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
PARMS 'SBT_LIBRARY=/usr/opensv/netbackup/bin/libobk.so64, ENV=(NB_ORA_SID=HRP,NB_ORA_HOME=/o
racle/HRP/19,NB_ORA_CLIENT=pepldr[REDACTED].pi.pvt,)' ;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - ALLOCATE CHANNEL ch02
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - TYPE 'SBT_TAPE'
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
PARMS 'SBT_LIBRARY=/usr/opensv/netbackup/bin/libobk.so64, ENV=(NB_ORA_SID=HRP,NB_ORA_HOME=/o
racle/HRP/19,NB_ORA_CLIENT=pepldr[REDACTED].pi.pvt,)' ;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - ALLOCATE CHANNEL ch03
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - TYPE 'SBT_TAPE'
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
PARMS 'SBT_LIBRARY=/usr/opensv/netbackup/bin/libobk.so64, ENV=(NB_ORA_SID=HRP,NB_ORA_HOME=/o
racle/HRP/19,NB_ORA_CLIENT=pepldr[REDACTED].pi.pvt,)' ;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - ALLOCATE CHANNEL ch04
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - TYPE 'SBT_TAPE'
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
PARMS 'SBT_LIBRARY=/usr/opensv/netbackup/bin/libobk.so64, ENV=(NB_ORA_SID=HRP,NB_ORA_HOME=/o
racle/HRP/19,NB_ORA_CLIENT=pepldr[REDACTED].pi.pvt,)' ;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
SEND 'NB_ORA_SERV=filnrmst[REDACTED],NB_ORA_POLICY=LMK-SILVER-ORA-SAP-
LNK,NB_ORA_PARENT_JOBID=395750,NB_ORA_SCHED=HRP-Incr';
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - BACKUP
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - FORMAT 'arch_d%d_u%u_s%s_p%p_t%t'
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - TAG 'HRP-19-pepldr[REDACTED]'
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - ARCHIVELOG
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - ALL;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - RELEASE CHANNEL ch00;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - RELEASE CHANNEL ch01;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - RELEASE CHANNEL ch02;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - RELEASE CHANNEL ch03;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - RELEASE CHANNEL ch04;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - # Control File Backup
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - ALLOCATE CHANNEL ch00
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - TYPE 'SBT_TAPE'
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
PARMS 'SBT_LIBRARY=/usr/opensv/netbackup/bin/libobk.so64, ENV=(NB_ORA_SID=HRP,NB_ORA_HOME=/o
racle/HRP/19,NB_ORA_CLIENT=pepldr[REDACTED].pi.pvt,)' ;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF -
SEND 'NB_ORA_SERV=filnrmst[REDACTED],NB_ORA_POLICY=LMK-SILVER-ORA-SAP-
LNK,NB_ORA_PARENT_JOBID=395750,NB_ORA_SCHED=HRP-Incr';
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - BACKUP
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - FORMAT 'ctrl_d%d_u%u_s%s_p%p_t%t'
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - TAG 'HRP-19-pepldr[REDACTED]'
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - CURRENT CONTROLFILE;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - RELEASE CHANNEL ch00;
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - }
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - End of Recovery Manager input.
Dec 11, 2023 6:00:10 PM - Info bphdb (pid=1985630) INF - Start of Recovery Manager output.
Dec 11, 2023 6:00:11 PM - Info bphdb (pid=1985630) INF - Recovery Manager: Release 19.0.0.0.0 -
Production on Mon Dec 11 18:00:10 2023
Dec 11, 2023 6:00:11 PM - Info bphdb (pid=1985630) INF - Version 19.19.0.0.0
Dec 11, 2023 6:00:12 PM - Info bphdb (pid=1985630) INF -
connected to target database: HRP (DBID=2256538394)
Dec 11, 2023 6:00:12 PM - Info bphdb (pid=1985630) INF -
using target database control file instead of recovery catalog
Dec 11, 2023 6:00:12 PM - Info bphdb (pid=1985630) INF - allocated channel: ch00

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Dec 11, 2023 6:00:12 PM - Info bphdb (pid=1985630) INF -
  channel ch00: SID=697 device type=SBT_TAPE
Dec 11, 2023 6:00:13 PM - Info bphdb (pid=1985630) INF - allocated channel: ch01
Dec 11, 2023 6:00:13 PM - Info bphdb (pid=1985630) INF -
  channel ch01: SID=258 device type=SBT_TAPE
Dec 11, 2023 6:00:13 PM - Info bphdb (pid=1985630) INF - allocated channel: ch02
Dec 11, 2023 6:00:13 PM - Info bphdb (pid=1985630) INF -
  channel ch02: SID=768 device type=SBT_TAPE
Dec 11, 2023 6:00:13 PM - Info bphdb (pid=1985630) INF - allocated channel: ch03
Dec 11, 2023 6:00:13 PM - Info bphdb (pid=1985630) INF -
  channel ch03: SID=259 device type=SBT_TAPE
Dec 11, 2023 6:00:14 PM - Info bphdb (pid=1985630) INF - allocated channel: ch04
Dec 11, 2023 6:00:14 PM - Info bphdb (pid=1985630) INF -
  channel ch04: SID=455 device type=SBT_TAPE
Dec 11, 2023 6:00:16 PM - Info bphdb (pid=1985630) INF -
  channel ch00: starting incremental level 1 datafile backup set
Dec 11, 2023 6:00:16 PM - Info bphdb (pid=1985630) INF -
  input datafile file number=00016 name=+DATA/HRPMDB/DATAFILE/psapsr3.331.1155073211
...

Dec 11, 2023 6:13:22 PM - Info bphdb (pid=1985630) INF -
  Starting Control File and SPFILE Autobackup at 11-DEC-23
Dec 11, 2023 6:13:37 PM - Info bphdb (pid=1985630) INF - piece handle=c-2256538394-20231211-
04 comment=API Version 2.0,MMS Version 5.0.0.0
Dec 11, 2023 6:13:37 PM - Info bphdb (pid=1985630) INF -
  Finished Control File and SPFILE Autobackup at 11-DEC-23
Dec 11, 2023 6:13:37 PM - Info bphdb (pid=1985630) INF - RMAN-
08591: warning: invalid archived log deletion policy
Dec 11, 2023 6:13:39 PM - Info bphdb (pid=1985630) INF - released channel: ch00
Dec 11, 2023 6:13:39 PM - Info bphdb (pid=1985630) INF - released channel: ch01
Dec 11, 2023 6:13:39 PM - Info bphdb (pid=1985630) INF - released channel: ch02
Dec 11, 2023 6:13:40 PM - Info bphdb (pid=1985630) INF - released channel: ch03
Dec 11, 2023 6:13:40 PM - Info bphdb (pid=1985630) INF - released channel: ch04
Dec 11, 2023 6:13:40 PM - Info bphdb (pid=1985630) INF -
  sql statement: alter system archive log current
Dec 11, 2023 6:13:40 PM - Info bphdb (pid=1985630) INF - allocated channel: ch00
Dec 11, 2023 6:13:40 PM - Info bphdb (pid=1985630) INF -
  channel ch00: SID=697 device type=SBT_TAPE
Dec 11, 2023 6:13:40 PM - Info bphdb (pid=1985630) INF - allocated channel: ch01
Dec 11, 2023 6:13:40 PM - Info bphdb (pid=1985630) INF -
  channel ch01: SID=258 device type=SBT_TAPE
Dec 11, 2023 6:13:41 PM - Info bphdb (pid=1985630) INF - allocated channel: ch02
Dec 11, 2023 6:13:41 PM - Info bphdb (pid=1985630) INF -
  channel ch02: SID=768 device type=SBT_TAPE
Dec 11, 2023 6:13:41 PM - Info bphdb (pid=1985630) INF - allocated channel: ch03
Dec 11, 2023 6:13:41 PM - Info bphdb (pid=1985630) INF -
  channel ch03: SID=259 device type=SBT_TAPE
Dec 11, 2023 6:13:41 PM - Info bphdb (pid=1985630) INF - allocated channel: ch04
Dec 11, 2023 6:13:41 PM - Info bphdb (pid=1985630) INF -
  channel ch04: SID=455 device type=SBT_TAPE
Dec 11, 2023 6:13:41 PM - Info bphdb (pid=1985630) INF - current log archived
Dec 11, 2023 6:13:48 PM - Info bphdb (pid=1985630) INF -
  channel ch00: starting archived log backup set
Dec 11, 2023 6:13:48 PM - Info bphdb (pid=1985630) INF -
  input archived log thread=1 sequence=184 RECID=269 STAMP=1155134614
...

Dec 11, 2023 6:27:01 PM - Info bphdb (pid=1985630) INF -
  Starting Control File and SPFILE Autobackup at 11-DEC-23
Dec 11, 2023 6:27:16 PM - Info bphdb (pid=1985630) INF - piece handle=c-2256538394-20231211-
05 comment=API Version 2.0,MMS Version 5.0.0.0
Dec 11, 2023 6:27:16 PM - Info bphdb (pid=1985630) INF -
  Finished Control File and SPFILE Autobackup at 11-DEC-23
Dec 11, 2023 6:27:17 PM - Info bphdb (pid=1985630) INF - RMAN-
08591: warning: invalid archived log deletion policy
Dec 11, 2023 6:27:18 PM - Info bphdb (pid=1985630) INF - released channel: ch00
Dec 11, 2023 6:27:18 PM - Info bphdb (pid=1985630) INF - released channel: ch01
Dec 11, 2023 6:27:18 PM - Info bphdb (pid=1985630) INF - released channel: ch02
Dec 11, 2023 6:27:18 PM - Info bphdb (pid=1985630) INF - released channel: ch03
Dec 11, 2023 6:27:18 PM - Info bphdb (pid=1985630) INF - released channel: ch04
Dec 11, 2023 6:27:18 PM - Info bphdb (pid=1985630) INF - allocated channel: ch00

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Автор – Коновалов С.П.

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Dec 11, 2023 6:27:18 PM - Info bphdb (pid=1985630) INF -
channel ch00: SID=697 device type=SBT_TAPE
Dec 11, 2023 6:27:18 PM - Info bphdb (pid=1985630) INF -
channel ch00: starting full datafile backup set
Dec 11, 2023 6:27:19 PM - Info bphdb (pid=1985630) INF -
including current control file in backup set
Dec 11, 2023 6:27:34 PM - Info bphdb (pid=1985630) INF -
piece handle=ctrl_dHRP_u8m2dpj05_s2326_p1_t1155320837 tag=HRP-19-
PEPLDR comment=API Version 2.0,MMS Version 5.0.0.0
Dec 11, 2023 6:27:34 PM - Info bphdb (pid=1985630) INF -
channel ch00: backup set complete, elapsed time: 00:00:15
Dec 11, 2023 6:27:34 PM - Info bphdb (pid=1985630) INF -
Starting Control File and SPFILE Autobackup at 11-DEC-23
Dec 11, 2023 6:27:49 PM - Info bphdb (pid=1985630) INF - piece handle=c-2256538394-20231211-
06 comment=API Version 2.0,MMS Version 5.0.0.0
Dec 11, 2023 6:27:49 PM - Info bphdb (pid=1985630) INF -
Finished Control File and SPFILE Autobackup at 11-DEC-23
Dec 11, 2023 6:27:50 PM - Info bphdb (pid=1985630) INF - released channel: ch00
Dec 11, 2023 6:27:50 PM - Info bphdb (pid=1985630) INF - RMAN-
08591: warning: invalid archived log deletion policy
Dec 11, 2023 6:27:51 PM - Info bphdb (pid=1985630) INF - Recovery Manager complete.
Dec 11, 2023 6:27:51 PM - Info bphdb (pid=1985630) INF - End of Recovery Manager output.
Dec 11, 2023 6:27:51 PM - Info bphdb (pid=1985630) INF - End Oracle Recovery Manager.
Dec 11, 2023 6:27:52 PM - Info bphdb (pid=7892) validating image for client pepldr .pi.pvt
Dec 11, 2023 6:27:52 PM -
Info bphdb (pid=1985630) done. status: 0: the requested operation was successfully completed
Dec 11, 2023 6:27:52 PM - end writing
The requested operation was successfully completed. (0)

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