

Thema: Installation Oracle 12cR1 im Oracle Exadata Cloud Service

Personen

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Maßnahmen: (Ohne Termin=Sofort)

Nr.	Wer?	Was?	Bis Wann ?	Status?
2	Bodo	Vorbereitungen		
3	Bodo	OracleDB 12cR1 Deployment auf der Exadata Cloud		
4	Bodo	Dokumentation		

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1. Installation einer Oracle DB 12g im Oracle Exadata Cloud Service

Dokumentation: [Using Oracle Database Cloud Service](#)

1.1 PRE install Schritte

1.1.1 Create an SSH key pair

Create SSH public/private key pairs to facilitate secure access to the compute nodes associated with your database deployments.

[Generating a Secure Shell \(SSH\) Public/Private Key Pair](#)

Erzeugen eines Private Key mit Puttygen:

- Putty-generischer Key .ppk
- OpenSSH Key .openSSH

Erzeugen des Public Key mit Puttygen:

- Copy und Paste in ein Notepad Dokument mit Endung .pub

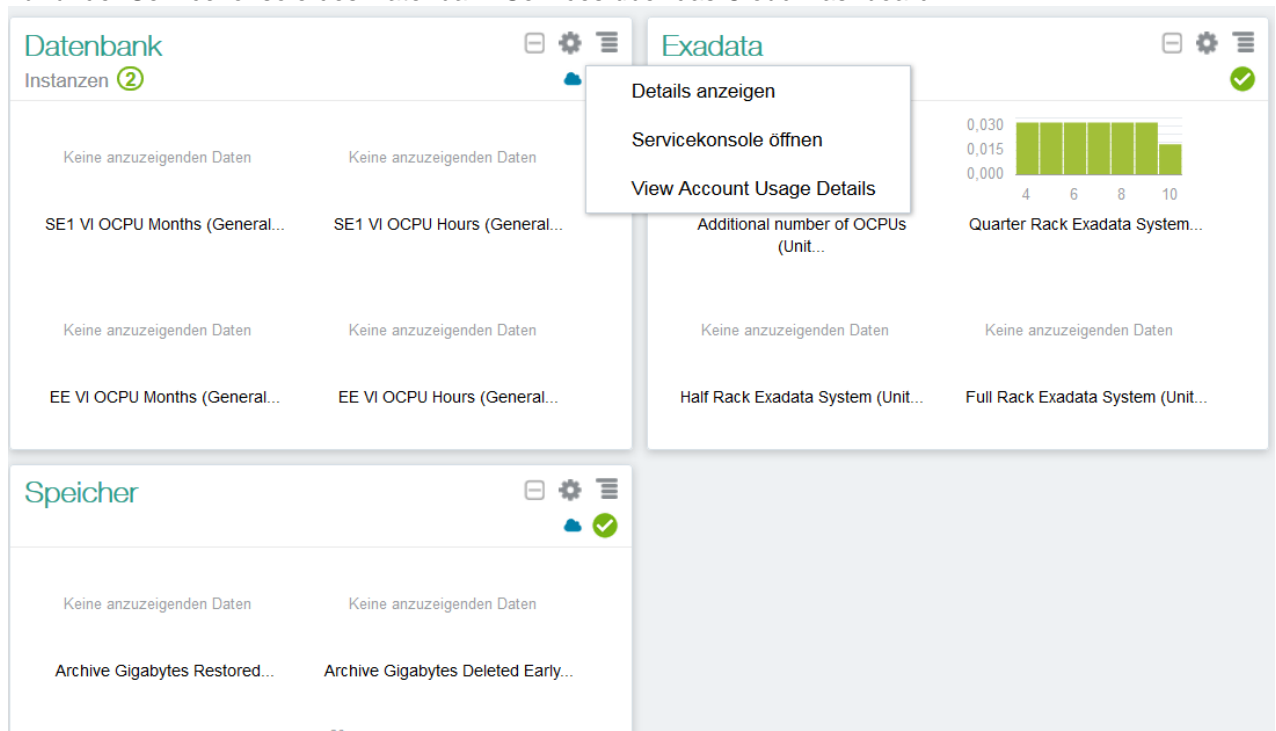
Wichtig bei der Erzeugung einer Datenbank im Exadata Cloud Service ist, dass der Zugriff auf die Exadata DB Nodes erfolgt und die Angabe des SSH Key Zugriffes bei der Erzeugung der Exadata Cloud Instanz erfolgt.

Falls ein weiterer SSH Key hinzukommen soll, z.B. für eine Person, welche die neue Datenbank administrieren soll, dann wird dies über die Aktion „SSH Access“ -> „Add New Key“ ermöglicht.

1.2 Installation



1.2.1 Installation einer RAC Datenbank ohne Backup


Aufruf der Servicekonsole des Datenbank Services über das Cloud Dashboard




Button „Create Service“ drücken

Action	time
Oracle Database Cloud Service: Create Service	23 minutes

Action	time
<div style="border: 1px solid #ccc; padding: 10px;"> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;">  <p>Oracle Database Cloud Service Create Service</p> </div> <div style="text-align: center;"> <p>Action</p> </div> </div> </div> <div style="margin-top: 10px;"> <div style="display: flex; justify-content: space-between; align-items: center;"> Cancel <div style="text-align: center;"> <p>Service Details Confirmation</p> <p>● ● ●</p> </div> Next > </div> </div> <div style="margin-top: 10px;"> <p>Service</p> <p>Provide basic service instance information.</p> <hr/> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>* Service Name <input style="width: 80%;" type="text" value="DB-TSP-ASM-Exadata-Test"/> ?</p> <p>Description <input style="width: 80%;" type="text" value="um Testen des TSP Read-only Workarounds"/> ?</p> <p>* Exadata System <input style="width: 80%;" type="text" value="mbiexacloud - Quarter Rack (2 no.)"/></p> </div> <div style="width: 45%;"> <p>* Service Level <input style="width: 80%;" type="text" value="Oracle Database Exadata Cloud Service"/> ?</p> <p>* Software Release <input style="width: 80%;" type="text" value="Oracle Database 12c Release 1"/> ?</p> <p>* Software Edition <input style="width: 80%;" type="text" value="Enterprise Edition - Extreme Performance"/> ?</p> <p>* Database Type <input style="width: 80%;" type="text" value="Database Clustering with RAC"/> ?</p> </div> </div> </div>	
<div style="border: 1px solid #ccc; padding: 10px;"> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;">  <p>Oracle Database Cloud Service Create Service</p> </div> <div style="text-align: center;"> <p>Action</p> </div> </div> </div> <div style="margin-top: 10px;"> <div style="display: flex; justify-content: space-between; align-items: center;"> < Previous Cancel <div style="text-align: center;"> <p>Service Details Confirmation</p> <p>● ● ●</p> </div> Next > </div> </div> <div style="margin-top: 10px;"> <p>! Selecting 'None' for Backup Destination may result in no backups for your service.</p> <p>Service Details</p> <p>Provide details for this Oracle Database Cloud Service instance.</p> <hr/> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Database Configuration</p> <p>* DB Name (SID) <input style="width: 80%;" type="text" value="TTSP02"/> ?</p> <p>* PDB Name <input style="width: 80%;" type="text" value="TEST02"/> ?</p> <p>* Administration Password <input style="width: 80%;" type="password" value="....."/> ?</p> <p>* Confirm Password <input style="width: 80%;" type="password" value="....."/> ?</p> <p>Advanced Settings</p> <p>* Character Set <input style="width: 80%;" type="text" value="AL32UTF8 - Unicode Universal ch"/> ?</p> <p>* National Character Set <input style="width: 80%;" type="text" value="AL16UTF16 - Unicode UTF-16 Un"/> ?</p> <p>Enable Oracle GoldenGate <input type="checkbox"/> ?</p> </div> <div style="width: 45%;"> <p>Backup and Recovery Configuration</p> <p>* Backup Destination <input style="width: 80%;" type="text" value="None"/> ?</p> </div> </div> </div>	

Action	time
<div style="border: 1px solid #ccc; padding: 10px;"> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: left;">  <p>Oracle Database Cloud Service Create Service</p> </div> <div style="text-align: right;"> Previous Cancel </div> </div> <div style="text-align: center; margin: 10px 0;"> </div> <div style="text-align: right; margin-top: 10px;"> Create </div> <div style="margin-top: 10px;"> <p>Confirmation</p> <p>Confirm your responses and create this Oracle Database Cloud Service instance.</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Subscription Details</p> <p>Service Level: Oracle Database Exadata Cloud Service Software Release: Oracle Database 12c Release 1 Software Edition: Enterprise Edition - Extreme Performance</p> <p>Service Details</p> <p>Service Name: DB-TSP-ASM-Exadata-Test Description: Database Service Exadata Instanz zum Testen des TSP Read-only Workarounds Exadata System: mbixacloud - Quarter Rack (2 nodes)</p> <p>Backup and Recovery Details</p> <p>Backup Destination: None</p> </div> <div style="width: 45%;"> <p>Database Configuration Details</p> <p>DB Name (SID): TTSP02 PDB Name: TEST02 Character Set: AL32UTF8 - Unicode Universal character set UTF-8 form 32-bit National Character Set: AL16UTF16 - Unicode UTF-16 Universal character set Include GoldenGate: No</p> <p>Standby Database Configuration Details</p> <p>Standby Database with Data Guard: No</p> </div> </div> </div> </div>	



Oracle Database Cloud Service

Services
Activity
SSH Access

Welcome! | [REST APIs](#)

As of Feb 17, 2017 1:28:10 PM UTC

Summary

4	21	555 GB	43,479 GB	5
Services	OCPUs	Memory	Storage	Public IPs

Services

🔍
Create Service

DB-TSP-ASM-Exadata-Test

Status: In Progress

Version: 12.1.0.2

Edition: Enterprise Edition - Extreme Performance

Submitted On: Feb 17, 2017 1:27:57 PM UTC

Exadata System: mbixacloud

OCPUs: 16.0

Memory: 480 GB

Storage: 42 TB

1.2.2 Activity Log

Oracle Database Cloud Service | Services | **Activity** | SSH Access | Welcome! | REST APIs

Use this page to search and review activities of Oracle Database Cloud Services in your identity domain.

Search Activity Log

Start Time Range: 2/16/2017 1:29 PM Search to Time

Status: All

Service Name: DB-TSP-ASM-Exadata-Test

Service Type: Oracle Database Cloud Service

Operation: All

Results per page: 10 1 result(s) as of Feb 17, 2017 1:29:28 PM UTC

Operation	Service Name	Service Type	Status	Start Time	End Time	Initiated By
Create Service	DB-TSP-ASM-Exadata-...	Oracle Database ...	Running	Feb 17, 2017 1:27:57 PM UTC		bodo.neuha...
Feb 17, 2017 1:27:57 PM UTC Activity Submitted Feb 17, 2017 1:27:57 PM UTC Activity Started Feb 17, 2017 1:27:57 PM UTC Creating Oracle Database Service [DB-TSP-ASM-Exadata-Test]...						

Oracle Database Cloud Service | Services | **Activity** | SSH Access | Welcome! | REST APIs

Use this page to search and review activities of Oracle Database Cloud Services in your identity domain.

Search Activity Log

Start Time Range: 2/16/2017 1:47 PM Search to Time

Status: All

Service Name: DB-TSP-ASM-Exadata-Test

Service Type: Oracle Database Cloud Service

Operation: All

Results per page: 10 1 result(s) as of Feb 17, 2017 2:07:59 PM UTC

Operation	Service Name	Service Type	Status	Start Time	End Time	Initiated By
Create Service	DB-TSP-ASM-Exadata-...	Oracle Database ...	Succeeded	Feb 17, 2017 1:27:57 PM UTC	Feb 17, 2017 1:50:15 PM UTC	bodo.neuha...
The operation succeeded.						

1.2.3 Überprüfung des Services

1.2.3.1 Putty Zugriff

Zugriff auf den ersten RAC Knoten (User opc).

1.2.3.2 Datenbank Informationen

Wechsel zum User oracle und Starten von sqlplus:

```
sudo -s
su - oracle
. ./TTSP02.env
sqlplus / as sysdba
show sga
```

```
SQL> show sga

Total System Global Area 2936012800 bytes
Fixed Size                2928728 bytes
Variable Size             872419240 bytes
Database Buffers         1325400064 bytes
Redo Buffers             148062208 bytes
In-Memory Area           587202560 bytes
SQL>
```

Weitere Informationen zur Datenbank und deren PDB:

```
select * from v$instance;
select name,dbid from v$database;
select name,open_mode,restricted from v$pdb;
```

Aus Enterprise Manager Database Express:

sga_target	2800M
SQL Memory	
pga_aggregate_target	2000M

Memory der 2 Knoten RAC Datenbank:

ORACLE® Enterprise Manager Database Express 12c

TTSP02 (12.1.0.2.0 CDB RAC) Configuration Storage

Memory Management

Configure Memory

Configuration

Memory Settings

SGA Memory

- Management Mode: Auto
- sga_target: 5.5GB
- inmemory_size: 1.1GB

PGA Memory

- Management Mode: Auto
- pga_aggregate_limit: 7.8GB
- pga_aggregate_target: 3.9GB

Datenbank Files

```

SQL> select * from dba_data_files;

FILE_NAME
-----
FILE_ID TABLESPACE_NAME          BYTES    BLOCKS STATUS    RELATIVE_FNO AUT    MAXBYTES
MAXBLOCKS
-----
INCREMENT_BY USER_BYTES USER_BLOCKS ONLINE_
-----
+DATA3/TTSP02/DATAFILE/system.dbf
  1 SYSTEM                2097152000  256000 AVAILABLE    1 YES 3.4360E+10
4194302
  524288 2096103424      255872 SYSTEM
+DATA3/TTSP02/DATAFILE/sysaux.dbf
  3 SYSAUX                2097152000  256000 AVAILABLE    3 YES 3.4360E+10
4194302
  524288 2096103424      255872 ONLINE
+DATA3/TTSP02/PDBSEED/DATAFILE/system.dbf
  5 UNDOTBS1              2097152000  256000 AVAILABLE   1024 YES 5.4976E+11
67108864
  524288 2096103424      255872 ONLINE
+DATA3/TTSP02/DATAFILE/users.dbf
  6 UNDOTBS2              2097152000  256000 AVAILABLE   1024 YES 5.4976E+11
67108864
  524288 2096103424      255872 ONLINE
+DATA3/TTSP02/PDBSEED/DATAFILE/sysaux.dbf
  7 USERS                 1073741824  131072 AVAILABLE    7 YES 3.4360E+10
4194302
  64000 1072693248      130944 ONLINE

```

1.2.3.3 Listener Status

```
lsnrctl status
```

1.2.3.4 ASM Instanz / Storage Konfiguration

V\$ASM_DISK	Contains one row for every disk discovered by the Oracle ASM instance, including disks that are not part of any disk group. This view performs disk discovery every time it is queried.
V\$ASM_DISK_IOSTAT	Displays information about disk I/O statistics for each Oracle ASM client. In an Oracle Database instance, only the rows for that instance are shown.
V\$ASM_DISK_STAT	Contains the same columns as V\$ASM_DISK , but to reduce overhead, does not perform a discovery when it is queried. It only returns information about any disks that are part of mounted disk groups in the storage system. To see all disks, use V\$ASM_DISK instead.
V\$ASM_DISKGROUP	Describes a disk group (number, name, size related info, state, and redundancy type). This view performs disk discovery every time it is queried.
V\$ASM_DISKGROUP_STAT	Contains the same columns as V\$ASM_DISKGROUP , but to reduce overhead, this view does not perform a discovery when it is queried. To see more complete information on all disks, use V\$ASM_DISKGROUP .
V\$ASM_ESTIMATE	Displays an estimate of the work involved in execution plans for Oracle ASM disk group rebalance and resync operations.
V\$ASM_FILE	Contains one row for every Oracle ASM file in every disk group mounted by the Oracle ASM instance.

2. Zusätzliche Themen eines Oracle Cloud Datenbank Deployments

2.1 Enterprise Manager Database Express 12c

Dokumentation: [Using Oracle Database Exadata Cloud Service](#) -> 5. Accessing Exadata Cloud Service-> Accessing Enterprise Manager Database Express 12c

2.2 Verschlüsselung

Controlling Default Tablespace Encryption

The `ENCRYPT_NEW_TABLESPACES` initialization parameter controls default encryption of new tablespaces. In Exadata Cloud Service databases, this parameter is set to `CLOUD_ONLY`.

Values of this parameter are as follows.

Value	Description
<code>ALWAYS</code>	Any tablespace created will be transparently encrypted with the AES128 algorithm unless a different algorithm is specified on the <code>ENCRYPTION</code> clause.
<code>CLOUD_ONLY</code>	Tablespaces created in a Database Cloud Service database will be transparently encrypted with the AES128 algorithm unless a different algorithm is specified on the <code>ENCRYPTION</code> clause. For non-Database Cloud Service databases, tablespaces will only be encrypted if the <code>ENCRYPTION</code> clause is specified. This is the default value.
<code>DDL</code>	Tablespaces are not transparently encrypted and are only encrypted if the <code>ENCRYPTION</code> clause is specified.