

North American Technology Division Solution Engineering Team

> 400 Oracle Public Cloud Workshop

Database Cloud Service Workshop

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Introduction

In this Lab you will use curl commands to retrieve information about the configuration and status of various cloud services without the need to use the Cloud Console. Note you may wish to open a separate text window with your identity domain account and password to copy/paste these into the placeholders in the following commands, and then copy this into the terminal windows.

This lab supports the following use cases:

Programatic control of cloud databases.

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Objectives

- Request information about DBCS related configuration and services.
- Create services with curl commands.

Required Artifacts

• There are now dependencies for this lab.

Curl 'Get' Examples (all commands enter in a terminal window)

STEP 1: Fetch a List of Access Rules

 Enter the following in a terminal window on the compute image. This will return a JSON formatted response providing security access rules. Note that we are using a US data center (see the highlight below). Many GSE instances are EMEA, in which case the URL would have an EM where the US is. This holds for all the examples that follow. Be sure to replace the Identity Domain and Identity Domain passwords below with your own.

```
curl -i -X GET \
-u "cloud.admin:<IDENTITY DOMAIN PASSWORD>" \
-H "X-ID-TENANT-NAME: <IDENTITY DOMAIN>" \
-H "Accept: application/json" \
https://psm.us.oraclecloud.com/paas/api/v1.1/instancemgm
t/<IDENTITY DOMAIN>/services/dbaas/instances/Alpha01A-
DBCS/accessrules
```

```
cle@b09b21 ~]$
"cloud.admin:
           -H "X-ID-TENANT-NAME: gse00011358" \
        -H "Accept: application/json" \
https://psm.us.oraclecloud.com/paas/api/v1.1/instancemgmt/gse00011358/services/dbaas/inst
  Server: Oracle-Application-Server-11g Strict-Transport-Security: max-age=31536000;includeSubDomains
  Content-Language: en Access-Control-Allow-Headers: Content-Type, api_key, Authorization, X-ID-TENANT-NAME, X-USER-
   IDENTITY-DOMAIN-NAME
   Access-Control-Allow-Methods: GET, POST, DELETE, PUT, OPTIONS, HEAD
  X-ORACLE-DMS-ECID: 00502rNSPBv6uHFpR0H7id0003mK0002ACX-ORACLE-DMS-ECID: 00502rNSPBv6uHFpR0H7id0003mK0002AC
   Access-Control-Allow-Origin: *
  X-Frame-Options: DENY
   Content-Type: application/json
   Vary: user-agent
  Date: Wed, 13 Dec 2017 00:28:17 GMT
  Content-Length: 1794
   Connection: keep-alive
{"accessRules":[{"ruleName":"ora_p2_ssh","description":"","status":"enabled","source":"PUBLIC -INTERNET","destination":"DB","ports":"22","protocol":"tcp","ruleType":"DEFAULT"),{"ruleName":"ora_p2_http","description":"", status":"disabled","source":"PUBLIC-INTERNET","destination":"DB","ports":"80","protocol":"tcp","ruleType":"DEFAULT"),{"ruleName":"ora_p2_httpssl","description":"","status":"enabled","source":"PUBLIC-INTERNET","destination":"DB","ports":"437","protocol":"tcp","ruleType":"DEFAULT"),{"ruleName":"ora_p2_httpssl","description":"","status":"disabled","source":"PUBLIC-INTERNET","destination":"DB","ports":"4848","protocol":"tcp","ruleType":"DEFAULT"),{"ruleName":"ora_p2_dbconsole","description":"","status":"disabled","source":"PUBLIC-INTERNET","destination":"DB","ports":"158","protocol":"tcp","ruleType":"DEFAULT"),{"ruleName":"ora_p2_dbexpress","description":"","status":"disabled","source":"PUBLIC-INTERNET","destination":"DB","ports":"5500","protocol":"tcp","ruleType":"DEFAULT"),{"ruleName":"ora_p2_dblistener","description":"","status":"disabled","source":"PUBLIC-INTERNET","destination":"DB","ports":"1521","protocol":"tcp","ruleType":"DEFAULT"),{"ruleName":"ora_p2_dblistener","description":"DREFAULT"),{"ruleName":"ora_p2_dblistener","description":"DREFAULT"),{"ruleName":"ora_p2_dblistener","description":"DREFAULT"),{"ruleName":"ora_p2_dblistener","description":"DREFAULT"),{"ruleName":"ora_p2-dblistener","description":"DREFAULT"),{"ruleName":"ora_p2-dblistener","description":"DREFAULT"),{"ruleName":"ora_p2-dblistener","description":"DREFAULT"),{"ruleName":"ora_p2-dblistener","description":"DREFAULT"),{"ruleName":"ora_p2-dblistener","description":"DREFAULT"),{"ruleName":"ora_p2-dblistener","description":"DREFAULT"),{"ruleName":"ora_p2-dblistener","description":"DREFAULT"),{"ruleName":"ora_p2-dblistener","description":"DREFAULT"),{"ruleName":"ora_p2-dblistener","description":"DREFAULT"),{"ruleName":"ora_p2-dblistener","description":"DREFAULT"),{"ruleName":"ora_p2-dblistener","description":"DREFAULT"),{"rul
         protocol":"tcp","ruleType":"SYSTEM"),{"ruleName":"Open-1522","description[oracle@b09b21 ~]$
   [oracle@b09b21 ~]$
```

STEP 2: Fetch a List of All Instances

 Enter the following in a terminal window on the compute image. This will return a JSON formatted response providing a list of instances (not just database - all instances).

```
curl -i -X GET \
-u "cloud.admin:<IDENTITY DOMAIN PASSWORD>" \
-H "X-ID-TENANT-NAME: <IDENTITY DOMAIN>" \
-H "Accept: application/json" \
https://psm.us.oraclecloud.com/paas/service/dbcs/api/v1.
1/instances/<IDENTITY DOMAIN>
```

```
oracle@b09b21 ~]$ curl -i -X GET
  -u "cloud.admin:
 -H "X-ID-TENANT-NAME: gse00011358" \
 -H "Accept: application/json"
 https://psm.us.oraclecloud.com/paas/service/dbcs/api/v1.1/instances/gse00011358
HTTP/1.1 200 OK
Server: Oracle-Application-Server-11g
Strict-Transport-Security: max-age=31536000; includeSubDomains
Content-Language: en
Access-Control-Allow-Headers: Content-Type, api_key, Authorization, X-ID-TENANT-NAME, X-USER-
IDENTITY-DOMAIN-NAME
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, OPTIONS, HEAD
X-ORACLE-DMS-ECID: 00503dwDGUG6uHFpR05Eid0000we0003tu
X-ORACLE-DMS-ECID: 00503dwDGUG6uHFpR05Eid0000we0003tu
Access-Control-Allow-Origin: *
X-Frame-Options: DENY
Content-Type: application/json
Vary: user-agent
Date: Wed, 13 Dec 2017 15:33:16 GMT
Content-Length: 689
Connection: keep-alive
{"uri":"https:\/\/psm.us.oraclecloud.com:443\/paas\/service\/dbcs\/api\/v1.1\/instances\/gse0
0011358", "service_type": "dbaas", "implementation_version": "1.0", "services": [{"service_name": "A
1pha01A-DBCS", "version": "12.2.0.1", "status": "Running", "description": "Alpha01A-DBCS", "identity
_domain":"qse00011358","creation_time":"2017-11-28T21:32:08.755+0000","last_modified_time":"2
017-11-28T21:32:08.726+0000", "created_by": "cloud.admin", "sm_plugin_version": "17.4.1-575", "too
ls_version":"17.4.1-575","backup_supported_version":"16.2.3","service_uri":"https:\/\/psm.us.
oraclecloud.com:443\/paas\/service\/dbcs\/api\/v1.1\/instances\/gse00011358\/Alpha01A-DBCS","
database_id":"0"}],"subscriptions":[]}[oracle@b09b21 ~]$
```

STEP 3: Fetch a List of All Image Files

• Enter the following in a terminal window on the compute image. This will return a JSON formatted response providing a list of all image files.

```
curl -X GET \
-u "cloud.admin:<IDENTITY DOMAIN PASSWORD>" \
-H "X-ID-TENANT-NAME: <IDENTITY DOMAIN>" \
https://us2.storage.oraclecloud.com/v1/Storage-<IDENTITY
DOMAIN>/compute_images
```

```
cle@b09b21 ~]$ curl -X GET \
"cloud.admin: 1" \
"X-ID-TENANT-NAME: gse00011358"
  M_4DC.tar.gz
ZM_4DC.tar.gz
J174_Client_v19_Nov9-snapshot.tar.gz
image/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz
image/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/000000001
image/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/000000002
image/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000003
 mage/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000004
mage/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000005
mage/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000006
.mage/620c5fe1-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/000000000
mmage/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000008
mage/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000009
mage/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000010
mage/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000011
mage/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000011
mage/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000013
mage/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000014
.mage/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/000000015
image/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000016
image/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000016
image/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000018
image/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000018
image/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/00000000018
image/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000021
image/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000021
image/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000021
image/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000021
image/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000021
.mage/620c5fe1-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/000000002
mage/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000024
mage/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000025
mage/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/000000026
mage/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000027
.mage/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000028
.mage/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/000000000029
.mage/620c5fel-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/0000000030
.mage/620c5fe1-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-ae7e-d57d6b622e43-snapshot.tar.gz/000000003
image/620c5fe1-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47e4-a7e-d57d6b622e43-snapshot.tar.gz/0000000032
image/620c5fe1-d42c-499e-a3e9-9969c4f13207-6c910bd8-e4a2-47ed-a7e-d57d6b622e43-snapshot.tar.gz/0000000033
image/e48de021-e282-412b-a8ac-7c5cfe2c54b0-cff31714-2e4b-4e39-a669-09fc355bfb4d-snapshot.tar.gz
image/e48de021-e282-412b-a8ac-7c5cfe2c54b0-cff31714-2e4b-4e39-a669-09fc355bfb4d-snapshot.tar.gz/0000000001
mage/e48de021-e282-412b-a8ac-7c5cfe2c54b0-cff31714-2e4b-4e39-a669-09fc355bfb4d-snapshot.tar.gz/0000000005
```

STEP 4: Fetch Details of DBCS Instance Alpha01A-DBCS

 Enter the following in a terminal window on the compute image. This will return a JSON formatted response providing details of a particular instance (Alpha01A-DBCS in this case).

```
curl -i -X GET \
-u "cloud.admin:<IDENTITY DOMAIN PASSWORD>" \
-H "X-ID-TENANT-NAME: <IDENTITY DOMAIN>" \
-H "Accept: application/json" \
https://psm.us.oraclecloud.com/paas/api/v1.1/instancemgm
t/<IDENTITY DOMAIN>/services/dbaas/instances/Alpha01A-
DBCS
```

```
"cloud.admin:
     -H "X-ID-TENANT-NAME: gse00011358"
    -H "Accept: application/json"
    https://psm.us.oraclecloud.com/pa
                                                                                   s/api/v1.1/instancemgmt/gse00011358/services/dbaas/instances/Alpha01A-DB
 erver: Oracle-Application-Server-11g
 Strict-Transport-Security: max-age=31536000;includeSubDomains
 Content-Language: en
  ccess-Control-Allow-Headers: Content-Type, api_key, Authorization, X-ID-TENANT-NAME, X-USER-IDENTITY-DOMAIN-NA
 Access-Control-Allow-Methods: GET, POST, DELETE, PUT, OPTIONS, HEAD
K-ORACLE-DMS-ECID: 00503fGd0Lr6uHFpR0H7id0003mK0000f
X-ORACLE-DMS-ECID: 00503fGd0Lr6uHFpR0H7id0003mK0000f2
  ccess-Control-Allow-Origin:
X-Frame-Options: DENY
 Content-Type: application/json
Date: Wed, 13 Dec 2017 15:57:13 GMT
 Content-Length: 7130
 Connection: keep-alive
{"serviceId":443189,"serviceUuid":"B0FF765F46784584B802B20F76941537","serviceLogicalUuid":"73085BAB95BF4256A08D
CDC5B015E08E","serviceName":"Alpha01A-DBCS","serviceType":"DBaaS","domainName":"gse00011358","serviceVersion":
12.2.0.1","releaseVersion":"Alpha01A-DBC5","baseReleaseVersion":"12.2.0.1","metaVersion":"17.4.1-201710250001","serv
iceDescription":"Alpha01A-DBC5","serviceLevel":"PBAS","subscription":"MONTHLY","meteringFrequency":"MONTHLY","e
dition":"EE","totalSSDStorage":0,"state":"READY","serviceStateDisplayName":"Ready","clone":false,"creator":"clo
ud.admin","creationDate":"2017-11-28T21:32:08.755+0000","isBYDL":false,"isManaged":false,"iaasProvider":"NIMBUL
A","attributes":{"BACKUP_DESTINATION":{"displayName":"Backup Destination","type":"STRING","value":"BOTH","displ
ayValue":"BOTH","isKeyBinding":false}},"tags":{"items":[],"totalResults":0,"hasMore":false},"components":{"DB_1
 :{"serviceId":443189,"componentId":494608,"state":"INITIALIZING","componentStateDisplayName":"Starting ...",
ersion":"12.2.0.1","componentType":"DB","creationDate":"2017-11-28T21:32:08.000+0000","instanceName":"DB_1","
ersion":"12.2.0.1", "componentType":"DB","creationDate":"2017-11-28T21:32:08.000+0000","instanceName":"DB_1","in
stanceRole":"PRIMARY","isKeyComponent":true,"attributes":{"IBKUP_DATABASE_ID":{"displayName":"Database ID - ibk
up","type":"STRING","value":"0","displayValue":"0","isKeyBinding":false),"STANDBY_DATABASE":{"displayName":"Dat
a Guard Configuration","type":"STRING","value":"no","displayValue":"no","isKeyBinding":false),"CONNECT_DESCRIPT
OR_WITH_PUBLIC_IP":{"displayName":"Database Connect Descriptor with Public IP","type":"STRING","value":"129.157
.187.248:1521\/PDB1.gse00011358.oraclecloud.internal","displayValue":"129.157.187.248:1521\/PDB1.gse00011358.or
aclecloud.internal", "isKeyBinding":true},"CHARSET":("displayName":"Character Set","type":"STRING","value":"AL32
UTF8","displayValue":"AL32UTF8", "isKeyBinding":false),"DBCONSOLE_PORT":("displayName":"DB Console Port","type":
"STRING","value":"1158","displayValue":"1158","isKeyBinding":false),"NCHARSET":("displayName":"National Charact
er Set"."type":"STRING"."value":"AL16UTF16"."displayValue":"AL16UTF16"."isKeyBinding":false)."DB DOMAIN":("disp
```

STEP 5: Isolate the IP Address of Alpha01A-DBCS in the example above using

 Enter the following in a terminal window on the compute image. This will return a JSON formatted response providing the IP address particular instance (Alpha01A-DBCS in this case).

```
curl -i -X GET \
-u "cloud.admin:<IDENTITY DOMAIN PASSWORD>" \
-H "X-ID-TENANT-NAME: <IDENTITY DOMAIN>" \
-H "Accept: application/json" \
https://psm.us.oraclecloud.com/paas/api/v1.1/instancemgm
t/<IDENTITY DOMAIN>/services/dbaas/instances/Alpha01A-
DBCS|sed -e 's/[{}]/''/g'|awk -v k="text"
'{n=split($0,a,","); for (i=1; i<=n; i++) print
a[i]}'|grep "ipAddress"|sed -n 1p</pre>
```

Curl 'Put' Examples (all commands enter in a terminal window)

STEP 6: Create New Access Rule - Open Port 1523

This creates a new access rule and enables it.

```
curl -i -X POST \
   -u "cloud.admin:<IDENTITY DOMAIN PASSWORD>" \
   -H "X-ID-TENANT-NAME: <IDENTITY DOMAIN>" \
   -d
'{"ruleName":"open1523","ruleType":"USER","description":
"","source":"PUBLIC-
INTERNET","destination":"DB","ports":"1523","protocol":"
tcp","status":"enabled"}' \
   -H "Accept: application/json" \
   -H "Content-Type: application/json" \
   https://psm.us.oraclecloud.com/paas/api/v1.1/instancemgm
t/<IDENTITY DOMAIN>/services/dbaas/instances/Alpha01A-
DBCS/accessrules
```

STEP 7: Create New DBCS Instance EXAMPLE

This creates a new DBCS Instance. This is only an example. We will not
do this as you may be over quota, and it can take over 30 minutes to
provision.

```
----- create instance -----
```

```
curl -X POST \
-u "cloud.admin:<IDENTITY DOMAIN PASSWORD>" \
-H "X-ID-TENANT-NAME: <IDENTITY DOMAIN>" \
-H "Content-Type:application/json" \
-H "Accept: application/json" \
-d @createrequestbody.json \ -- this references the file
below
https://dbaas.oraclecloud.com/paas/service/dbcs/api/v1.1
/instances/<IDENTITY DOMAIN>
----- createrequestbody.json ------
  "description": "Example service instance",
  "edition": "EE_HP",
  "level": "PAAS",
  "serviceName": "orcl2",
  "shape": "oc3",
  "subscriptionType": "HOURLY",
  "version": "12.1.0.2",
  "vmPublicKeyText": "ssh-rsa
AAAAB3NzaC1yc2EAAAABJQAAAQEAjjVf7hUGWOjWa1bcPSJ1uA9Tu3rY
J/90kmtUzPiLSv6bKs2RjxnH6l80cfZibWned7wlqZeEA1iMWza+E8nM
k/0sMkO+f9HpkTCc/N4wD7nFmLiAmhivWnS2HFj4oiNPdmBM4tFhSsfE
extTSRK0lIZG0m9aIAOUh7e6Tf1/XS+MTLyUYwNGkNWHtAH03J3sVf3A
aJ+SxS8YyVz5SY0VnJTWRqKs5nrLfLuJEsrBZdme4RYowIqxUlYWpkaf
/RjFk2kIvIN1sEQHmMe+RTZmCvaDaOmOKlLOg9pmUN7Ybra3r7BnVbr1
FuAJBjFj45XisY5lmhJCNZNFl79GJ8H8hw== rsa-key-20160415",
  "parameters": [
      "type": "db",
      "usableStorage": "15",
      "adminPassword": "Welcome_1",
      "sid": "orcl",
      "pdbName": "pdb1",
      "failoverDatabase": "no",
      "backupDestination": "BOTH",
      "cloudStorageContainer": "Storage-<IDENTITY
DOMAIN>\/Alpha01A_DBCS_SC",
      "cloudStorageUser": "cloud.admin",
```