

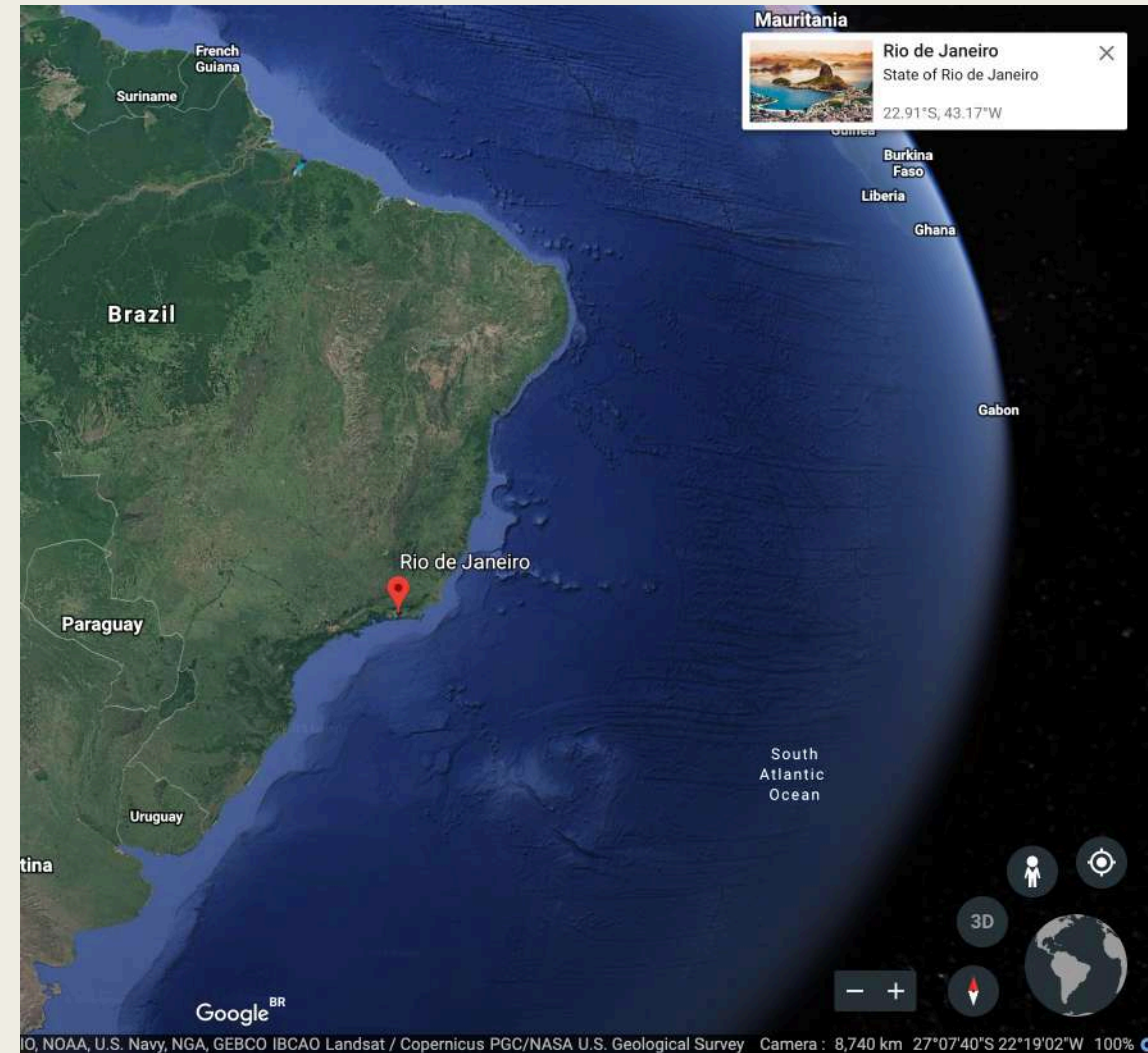
Deep dive into Oracle Cloud metadata *(and how to build custom reports)*



About



- Since Nov/2016
- Oracle Security Enthusiast / Cloud / Performance HC / HA deployments / etc



Rodrigo Jorge



ORACLE
Certified Master



ORACLE
ACE Director

- **4x OCM: 11g / 12c / MAA / Cloud**
- **OCEs 11g / 12c / ...**
- **(...)**



www.dbarj.com.br



@rodrigojorgedba



/rodrigoaraujorge



DBA - Rodrigo Jorge - Oracle Tips and Guides

Blog about Databases, Security and High Availability



Elite

- Global systems integrator focused on the Oracle platform
- Consultants average 15+ years of Oracle experience
- Worldwide specialist in Engineered Systems implementations
- 13 Oracle ACE members, recognized by Oracle for their technical expertise



Expertise

Oracle Specializations*

- Oracle Exadata
- Oracle Exalogic
- Oracle Database
- Oracle GoldenGate
- Oracle Data Integrator
- Oracle Data Warehouse
- Oracle Real Application Cluster
- Oracle Performance Tuning
- Oracle Database Security

Oracle Engineered Systems Numbers

- 1000+ Oracle Engineered Systems which AEG have configured, patched or supported.
- 120+ AEG resources which have an average 15+ years of Oracle experience
- AEG Support across 9 countries
- 200 Oracle Engineered Systems (Exadata/Exalogic, etc) currently under management directly by AEG
- 200+ customers in either the AEG Managed Services program or remoteDBA program
- 50,000 Accenture Oracle IDC resources that can be leveraged for Level 1 & Level 2 support



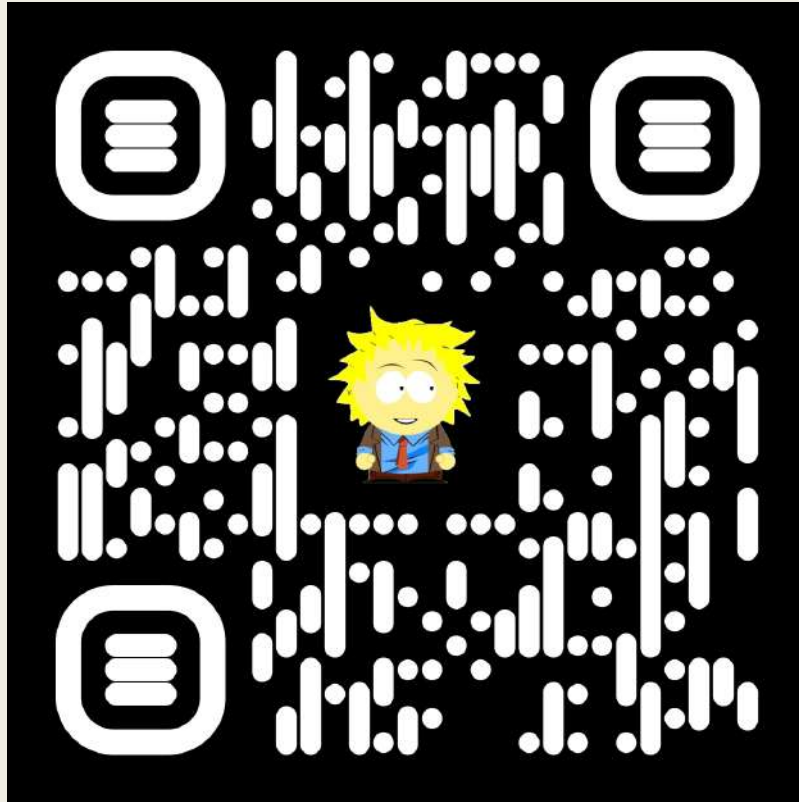
Success



Thought Leadership

Our consultants have been published in multiple subject areas and additional online resources that demonstrate Accenture's experience and expertise with the OES platform





THE ONE ~~PICTURE~~ PRINTSCREEN SLIDE.

Slides will be publicly
available in 40 minutes.

(autonomous)

BEFORE ANYTHING

HOW THIS ALL
STARTED..



Questions:

- Which volumes I have across all compartments in all regions that are unallocated?
- I want a list of all computes I have across all regions..
- What is the total boot+block storage allocated per compute?
- Which security list I have that are not being used by any subnet?
- What is the linear regression cost trend of my tenancy?
- Which users created volumes in my prod compartment yesterday?
- ...



```
#!/bin/bash
compartment=ocid1.compartment.oc1..aaaaaaaaecfyyp6fpwtbrv54irhpeywj ifxekm3rwrkndsg46rz2ecjbon3q

# Fetch all compute instances for compartment
echo "Getting computes..."
computes=$(oci compute instance list -c $compartment)

# Fetch all VNIC attachments for compartment
echo "Getting vnicAttachments..."
vnicAttachments=$(oci compute vnic-attachment list -c $compartment)

# Loop through compute instances
for computeIdx in $(echo "$computes" | jq '.data | keys | .[]'); do

    # Extract instance OCID
    computeOCID=$(echo "$computes" | jq -r ".data[$computeIdx].\"id\"")

    # Extract instance name
    computeName=$(echo "$computes" | jq -r ".data[$computeIdx].\"display-name\"")

    # Extract VNIC attachment OCIDs for this instance
    vnicIds=$(echo "$vnicAttachments" | jq -r '.data[] | select(.\"instance-id\" == \"$computeOCID\") | .\"vnic-id\"')

    echo "$computeIdx $computeName "

    # Loop through VNICS of this instance
    for vnicId in $vnicIds; do

        # Extract various attributes and print them
        vnic=$(oci network vnic get --vnic-id $vnicId)
        privateIp=$(echo $vnic | jq -r '.data | .\"private-ip\"')
        publicIp=$(echo $vnic | jq -r '.data | .\"public-ip\"')
        vnicName=$(echo $vnic | jq -r '.data | .\"display-name\"')

        printf "    VNIC $vnicName (${vnicId:(-5)}) :    Public: $privateIp Private: $publicIp\n"

    done
done
```




Cost Section ...

Account Management

Cost Analysis

Cost Analysis

Cost and Usage Reports

Budgets

Invoices

Payment Method

! Cost data may be delayed by approximately 4 days. We are working to resolve this issue and apologize for the inconvenience.

For dates older than 2020-04-01 switch to classic version

TIME PERIOD (UTC) SHOW REPORTS

This Month (Aug 2020) Cost Costs by Service

FILTERS

Add Filter

GROUPING DIMENSIONS

Select a Grouping Dimension

Apply Cancel [Clear All Filters](#)

Time Period : Aug 2020 ⓘ

Account Management

Cost Analysis

Cost and Usage Reports

Budgets

Invoices

Payment Method

Cost and Usage Reports

Cost and usage reports are CSV files generated daily that show

Name
reports/usage-csv/0001000000265882.csv.gz
reports/usage-csv/0001000000265133.csv.gz
reports/usage-csv/0001000000264388.csv.gz
reports/cost-csv/0001000000123713.csv.gz
reports/cost-csv/0001000000122859.csv.gz
reports/usage-csv/0001000000263635.csv.gz
reports/cost-csv/0001000000122353.csv.gz
reports/usage-csv/0001000000262864.csv.gz
reports/cost-csv/0001000000121405.csv.gz

Compartment Explorer ...

☰ ORACLE Cloud

Governance

- [Audit](#)
- [Compartment Explorer](#)
- [Quota Policies](#)
- [Limits, Quotas and Usage](#)
- [Tag Namespaces](#)
- [Compliance Documents](#)

Tag Filters [add](#) | [clear](#)

no tag filters applied

Select Compartment

SHOW RESOURCES IN SUBCOMPARTMENTS

- ☐ dbarj (root)
- ☐ compt_dev
 - compt_dev_app
 - compt_dev_db
 - compt_dev_net
- ☐ compt_prod
 - compt_prod_app
 - compt_prod_db
 - compt_prod_net
- ☐ compt_ss
 - compt_ss_net
- ☐ compt_test

Compartment Explorer

Name: [dbarj \(root\)](#)
Description: dbarj

i Don't see what you're looking for? These results include only resources supported by [Search](#). Updates made to resources might not immediately appear.

Volume Backups (7) ✕

View Work Requests
Move Selected
Delete Selected

<input type="checkbox"/>	Name	▲	Compartment
<input type="checkbox"/>	test_vol_full_1		dbarj (root)/compt_dev/compt_dev_app
<input type="checkbox"/>	test_vol_full_1		dbarj (root)/compt_dev/compt_dev_db
<input type="checkbox"/>	test_vol_incr_2		dbarj (root)/compt_dev/compt_dev_app
<input type="checkbox"/>	teste		dbarj (root)/compt_dev/compt_dev_app
<input type="checkbox"/>	u01_Full		dbarj (root)/compt_dev/compt_dev_app
<input type="checkbox"/>	u01_Full_2		dbarj (root)/compt_dev/compt_dev_app
<input type="checkbox"/>	u01_Incr_3		dbarj (root)/compt_dev/compt_dev_app

0 Selected

Advanced Resource Query ...

☰ ORACLE Cloud

ADVANCED RESOURCE QUERY

Query for all resources that are Always Free

```

query
all resources
where
  systemTags.namespace = 'orcl-cloud' &&
  systemTags.key = 'free-tier-retained' &&
  systemTags.value = 'true'
    
```

You can filter results more specifically with query language. For help constructing queries, see [Search Language Syntax](#).

These results include only supported resource types. For more information about what resources you can find in Search results, see [Supported Resources](#).

Search

Categories

Resources

Don't see what you're looking for? ⓘ

Resource Search Results

Filter by resource types:

Choose one or more resource types to filter the results

Display Name	Resource Type	OCID	Com
teste Always Free	Volume Backups	...nlcs4a Show Copy	...b7?
u01_Incr_3 Always Free	Volume Backups	...6lweva Show Copy	...b7?
u01_Full_2 Always Free	Volume Backups	...k2cjlq Show Copy	...b7?
u01_Full Always Free	Volume Backups	...nmsvoq Show Copy	...b7?
oci360_u01 Always Free	Block Volumes	...nlyf5a Show Copy	...b7?

Structured Search

```
oci search resource structured-search \  
  
  --query-text "query all resources where ( \  
    freeformTags.key = '$1' \  
    && freeformTags.value = '$2')" \  
  
  --output table \  
  
  --query "data.items[*] | \  
  sort_by(@, &\"resource-type\") \  
  [].{Name: \"display-name\", Type: \"resource-type\", ID: identifier, AD: \"availability-domain\"}"
```



OEM 13c

ORACLE Enterprise Manager Cloud Control 13c

Enterprise Targets Favorites History Setup

Information Publisher Reports

Page Refreshed Aug 17, 2020 10:43:58 AM BRT

Search

Title: [] Target Type: All
 Owner: All Target Name: []
 Go

Delete Create Like Edit Create

Expand All Collapse All

Select	Title	Description	Date Generated	Owner
<input type="radio"/>	Information Publisher Reports			
<input type="radio"/>	Cisco			
<input type="radio"/>	Cisco Switch			
<input checked="" type="radio"/>	Network Information	Network information		SYSMAN
<input type="radio"/>	System Health	System health information		SYSMAN
<input type="radio"/>	Compliance			
<input type="radio"/>	Descriptions			
<input type="radio"/>	Compliance Group Library Summary	Compliance Group Library Summary		SYSMAN
<input type="radio"/>	Compliance Standard Library Summary	Compliance Standard Library Summary		SYSMAN
<input type="radio"/>	Compliance Standard Rule Summary	Compliance Standard Rule Summary		SYSMAN
<input type="radio"/>	Results			
<input type="radio"/>	Compliance Group evaluation Summary	Compliance Group evaluation Summary		SYSMAN
<input type="radio"/>	Compliance Standard Result Details	Compliance Standard Result Details		SYSMAN
<input type="radio"/>	Compliance Standard Result Summary	Compliance Standard Result Summary		SYSMAN
<input type="radio"/>	Target with Lowest AVG COMPLIANCE SCORE	Target with Lowest AVG COMPLIANCE SCORE		SYSMAN
<input type="radio"/>	Deployment and Configuration			
<input type="radio"/>	Alerts			
<input type="radio"/>	IP Address Activity (Detailed) Report	Detailed report of IP Addresses with a high number of successes or failures, or a large number of distinct users. Report includes per user total.		SYSMAN



I NEEDED A PLAN..



FIND A WAY TO EXTRACT ALL THE METADATA WE HAVE IN OCI...



LOAD THIS METADATA SOMEWHERE...



QUERY THIS DATA WITH SQL SO I CAN BUILD ANY IMAGINABLE REPORT!

EXTRACTION



Extraction options

Oracle Cloud Infrastructure Documentation

- ▶ Oracle Cloud's Free Tier
- ▶ Oracle Cloud Infrastructure Government Cloud
- ▶ Services
- ▼ Developer Resources
 - ▼ Developer Guide
 - ▶ Setup and Prerequisites
 - ▶ Working with Cloud Shell
 - ▶ Working with the Command Line Interface (CLI)
 - ▼ SDK Guides
 - ▶ SDK for Java
 - ▶ SDK for Python
 - ▶ SDK for Ruby
 - ▶ SDK for Go
 - ▶ SDK for TypeScript and JavaScript
 - ▶ SDK for .NET
 - ▶ Other Tools and Plug-ins
 - ▶ Appendix and Reference
 - ▶ Developer Tutorials
- ▶ Security

Software Development Kits and Command Line Interface

Oracle Cloud Infrastructure provides a number of Software Development Kits (SDKs) and a Command Line Interface (CLI) to facilitate development of custom solutions.

- Software Development Kits (SDKs) Build and deploy apps that integrate with Oracle Cloud Infrastructure services. Each SDK provides the tools you need to develop an app, including code samples and documentation to create, test, and troubleshoot. In addition, if you want to contribute to the development of the SDKs, they are all open source and available on GitHub.
 - [SDK for Java](#)
 - [SDK for Python](#)
 - [SDK for TypeScript and JavaScript](#)
 - [SDK for .NET](#)
 - [SDK for Go](#)
 - [SDK for Ruby](#)
- [Command Line Interface \(CLI\)](#) The CLI provides the same core capabilities as the Oracle Cloud Infrastructure Console and provides additional commands that can extend the Console's functionality. The CLI is convenient for developers or anyone who prefers the command line to a GUI.

My option: OCI-CLI

- Built on Python 3.5 or later
- Mac, Windows, Linux
- Calls OCI APIs via REST
- Easy to install and configure:
 - <https://github.com/oracle/oci-cli>
 - `bash -c "$(curl -L https://raw.githubusercontent.com/oracle/oci-cli/master/scripts/install/install.sh)"`

List all Instances:

```
$ oci compute instance list --all
```

```
Usage: oci compute instance list [OPTIONS]
```

```
Error: Missing option(s) --compartment-id.
```

What is required?

FOR I in Compartments

> get compute instances <

Listing all compartments

```
$ oci iam compartment list --query "data[].id" --all --compartment-id-in-subtree true --include-root
[
  "ocid1.tenancy.oc1..aaaaaaaaunn73emggesayznlqeunvmbmbtgzbigd67mtjwbu2doq44igna",
  "ocid1.compartment.oc1..aaaaaaaaajsgvr66jcr5wysquqii2j42v2zuzq7jphbvqpfinpidadomrk3p3ka",
  "ocid1.compartment.oc1..aaaaaaaaaflc4pzf3syqksvmsmcpzxi5adsvquq7kaxkbl4wnmbkfpw77fvtq",
  "ocid1.compartment.oc1..aaaaaaaaa2adzntme6rvuim2xkiiupjyhizzul2bkxwb2zhsmyxgmzdb75d4q",
  "ocid1.compartment.oc1..aaaaaaaaaysvxbvvyht4goajycwzxiulxvrqygtmed3ugzbpamrydot6xjksq",
  "ocid1.compartment.oc1..aaaaaaaaaq3cnjpalafkn2a5baqnzvdwfguhlqaaxpipvjtiyh3mgkwqxwnq",
  "ocid1.compartment.oc1..aaaaaaaaaikiplwmmszekn7hegxumarlp6hwlgyoyrmuinc5efruivglfqqz",
  "ocid1.compartment.oc1..aaaaaaaaapijrriuaz2o6k2ldvzqe6wnfifzibl7r6wovqx6i2r7ufe4cqz5a",
  "ocid1.compartment.oc1..aaaaaaaaaln6m2f2ijs7malotaw4nyaxyouv75nr67of5uqfczoygncawrcua",
  "ocid1.compartment.oc1..aaaaaaaaajjqndsumgx4ra3xgrivawzqe7dvtcteq5cy4wfn33tp6cskeizja",
  "ocid1.compartment.oc1..aaaaaaaaa6xsdgk5atkoh3hkavml76agjo2rkje5opxk4ltj6pkf5utnbtaq",
  "ocid1.compartment.oc1..aaaaaaaaa7he2imxhfgzi7pufgiur5gyr57dn7bpemsq5zgwlllkpermrnfa",
  "ocid1.compartment.oc1..aaaaaaaaa7l3bw3debz43j3gvqukcc5qsmcg6vlbcp25zy3sd4gowtvf2lgeq",
  "ocid1.compartment.oc1..aaaaaaaaa6sgohml1ry2fpvrsfdkwfh2fn54ohkvioldp5tezexw5txpf2tbva",
  "ocid1.compartment.oc1..aaaaaaaaamqsj4vcuj7242qvyzoqyvazno4juforxotzbxw1ft46jbx3n5qq",
  "ocid1.compartment.oc1..aaaaaaaaalstxgxejfj3qavy25h23qacsnbthzqt4sw7b2kgxzi5itd4pbnuq",
  "ocid1.compartment.oc1..aaaaaaaaapvojs7y7z1su2hyqddozmk2dgn2gqfuz5p3jylldrmay7ppede7mq",
  "ocid1.compartment.oc1..aaaaaaaaa67yod2f44foausjyadim6bvoqow6ghihfpfhxeqjidhsiigusmiq",
  "ocid1.compartment.oc1..aaaaaaaaaxglc5qhiyw2ff6wjkyvfyixyfvhn4okgjalfotvo2ildp6ie2hq",
  "ocid1.compartment.oc1..aaaaaaaaagthxui6s3xhjvbxwophz64tbkqii2wpzxcdcmnvkek4foupufa",
  "ocid1.compartment.oc1..aaaaaaaaaul3spexn3tmejqq2udelg762eim67nlzxwmgmogwmeofyl4nffzq"
]
```

Now all instances over all comparts

```
$ oci iam compartment list --query "data[].id" --all --compartment-id-in-subtree true --include-root | \
jq -r '.[[]' | \
xargs -L 1 echo oci compute instance list --all -c
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaajsgvr66jcr5wysquqii2j42v2zuzq7jphbvgpfinpidomrk3p3ka
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaaflc4pzf3syqksvmsmcpzxi5adsvquq7kaxkbl4wnmbkfpw77fvtq
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaa2adzntme6rvuim2xkiipjyhihzul2bkxwb2zhsmyxgmzdb75d4q
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaaysvxbvyht4goajycwzxiulxvrqygtmed3ugzbpamrydot6xjskq
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaaq3cnjpalafkn2a5baqnzvdwfguhlqaaxpipvjtijh3mgkwqxwnq
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaaikiplwmmszekn7hegxumarlp6hwlgyoyrmuinc5efruivglfqzq
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaapijrriuaz2o6k2ldvzqe6wnfifzibl7r6wovqx6i2r7ufe4cqz5a
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaaln6m2f2ijs7malotaw4nyaxyouv75nr67of5uqfczoygncawrcua
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaajjqndsumgx4ra3xgrivawzqe7dvtcte5cy4wfn33tp6cskeizja
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaa6xsdglk5atkoh3hkavml76agjo2rkje5opxk4ltj6pkf5utnbtq
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaa7he2imxhfgzi7pufgiur5gyr57dn7bpemsq5zgwllkpermrnfa
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaa7l3bw3debz43j3gvqukcc5qsmcg6vlbcp25zy3sd4gowntvf2lgeq
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaa6sgohml1ry2fpvrsfdkwfh2fn54ohkviudp5tezexw5txpf2tbva
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaamqsj4vcuj7242qvyzoqyvazno4juforxotzbxw1ft46jbx3n5qq
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaalstxgxejfj3qavy25h23qacsnbthzqt4sw7b2kgxzi5itd4pbnuq
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaapvojs7y7zlsu2hyqddozmk2dgn2gqfuz5p3jyldrmy7ppede7mq
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaa67yod2f44foausjyadim6bvoqow6ghihfpfhxeqjidhsiigusmiq
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaaxglc5qhiyw2ff6wjkyvfyixyfvhn4okgjalfotvo2ildp6ie2hq
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaagthxui6s3xhjvwbaxwophz64tbkqii2wpzxcdcmnvkek4foupufa
oci compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaaul3spexn3tmejqq52udelg762eim67nlzxwmgmogwmeofyl4nfzq
```



AND THE OTHER
REGIONS?!



How is the region defined?

```
$ cat .oci/config
```

```
[DEFAULT]
```

```
user = ocid1.user.oc1..xxx
```

```
fingerprint = 31:12:c4:42:5d:8b:1c:9b:c9:0a:68:43:6c:85:0c:e7
```

```
key_file=/Users/rodrigo.jorge/.oci/oci_api_key.pem
```

```
tenancy=ocid1.tenancy.oc1..xxx
```

```
region=us-ashburn-1
```

```
$ oci -v
```

```
--region TEXT
```

```
The region to make calls against. For a list of valid region names use the command: "oci iam region list".
```

What is required?

FOR I in Subscribed Regions

FOR J in Compartments

> list compute instances <

Now all instances over all comparts

```
$ oci iam region-subscription list --all --query "data[].\\"region-name\\" | \  
jq -r '.[[]]' | \  
xargs -L 1 -I {} sh -c 'oci iam compartment list --query "data[].id" --all --compartment-id-in-subtree true --include-root | \  
jq -r '.[[]]' | \  
xargs -L 1 echo oci --region {} compute instance list --all -c'  
oci --region sa-saopaulo-1 compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaajsgvr66jcr5wysquqii2j42v2zuzq7jphbvvgpfinpidomrk3p3ka  
oci --region sa-saopaulo-1 compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaaf1c4pzf3syqksvmsmcpzxi5adsvquq7kaxkbl4wnmbkfpw77fvtq  
oci --region sa-saopaulo-1 compute instance list --all -c ocid1.compartment.oc1..aaaaaaaa2adzntme6rvuim2xkiiupjyhizzul2bkxwb2zhsmyxgmzdb75d4q  
oci --region sa-saopaulo-1 compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaysvxrbvyht4goajycwzxiulxvrqygtmed3ugzbpamrydot6xjskq  
...  
oci --region us-ashburn-1 compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaajsgvr66jcr5wysquqii2j42v2zuzq7jphbvvgpfinpidomrk3p3ka  
oci --region us-ashburn-1 compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaaf1c4pzf3syqksvmsmcpzxi5adsvquq7kaxkbl4wnmbkfpw77fvtq  
oci --region us-ashburn-1 compute instance list --all -c ocid1.compartment.oc1..aaaaaaaa2adzntme6rvuim2xkiiupjyhizzul2bkxwb2zhsmyxgmzdb75d4q  
oci --region us-ashburn-1 compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaysvxrbvyht4goajycwzxiulxvrqygtmed3ugzbpamrydot6xjskq  
...  
oci --region us-phoenix-1 compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaajsgvr66jcr5wysquqii2j42v2zuzq7jphbvvgpfinpidomrk3p3ka  
oci --region us-phoenix-1 compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaaf1c4pzf3syqksvmsmcpzxi5adsvquq7kaxkbl4wnmbkfpw77fvtq  
oci --region us-phoenix-1 compute instance list --all -c ocid1.compartment.oc1..aaaaaaaa2adzntme6rvuim2xkiiupjyhizzul2bkxwb2zhsmyxgmzdb75d4q  
oci --region us-phoenix-1 compute instance list --all -c ocid1.compartment.oc1..aaaaaaaaysvxrbvyht4goajycwzxiulxvrqygtmed3ugzbpamrydot6xjskq  
...
```



THIS IS FOR COMPUTES..

WHAT ABOUT BOOT VOLUMES?

oci bv boot-volume list -h

NAME

bv_boot-volume_list -

DESCRIPTION

Lists the boot volumes in the specified compartment and availability domain.

USAGE

oci bv boot-volume list [OPTIONS]

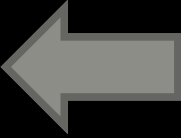
REQUIRED PARAMETERS

--availability-domain [text] 

The name of the availability domain.

Example:

Uocm:PHX-AD-1

--compartment-id, -c [text] 

The [OCID](https://docs.cloud.oracle.com/Content/General/Concepts/identifiers.htm)
<<https://docs.cloud.oracle.com/Content/General/Concepts/identifiers.htm>>
of the compartment.

Now all BVs over all Compartments of all ADs of all Regions

What is required?

FOR I in Subscribed Regions

FOR J in ADs

FOR K in Compartments

> list boot volumes <



THIS IS FOR BOOT VOLUMES..

*WHAT ABOUT BOOT VOLUME
BACKUP ASSIGNMENTS?*



```
$ oci bv volume-backup-policy-assignment get-volume-backup-policy-asset-assignment -h
```

NAME

```
bv_volume-backup-policy-assignment_get-volume-backup-policy-asset-assignment -
```

DESCRIPTION

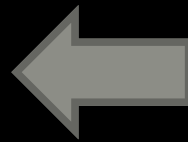
Gets the volume backup policy assignment for the specified volume. The assetId query parameter is required, and the returned list will contain at most one item, since volume can only have one volume backup policy assigned at a time.

USAGE

```
oci bv volume-backup-policy-assignment get-volume-backup-policy-asset-assignment [OPTIONS]
```

REQUIRED PARAMETERS

```
--asset-id [text]
```



The OCID of an asset (e.g. a volume).

Now all Backup Polices over all BVs over all Compartments of all ADs of all Regions

What is required?

FOR I in Subscribed Regions

FOR J in ADs

FOR K in Compartments

> list boot volumes <

FOR K in Boot Volumes

> get boot volume backup policy <

oci_json_export.sh

- https://github.com/dbarj/oci-scripts/blob/master/oci_json_export.sh

```
$ oci_json_export.sh
Usage: oci_json_export.sh <option>

<option> - Execution Scope.

Valid <option> values are:
- ALL          - Execute json export for ALL possible options and compress output in a zip file.
- ALL_REGIONS - Same as ALL, but also loop over for all tenancy's subscribed regions.
- BDS-InstDetails
- BDS-Instances
- BV-BVBackups
- BV-BVKey
- Budget-Data
...
```

- 142 options and growing..



```
$ time oci_json_export.sh Comp-Instances > computes.json
```

```
real      0m39.630s
user      1m7.462s
sys       0m27.768s
```

```
$ cat oci_json_export.log
```

```
20200817150304: Temporary folder is: /var/folders/b5/8gm9gwt11cl12r5_8vc3zydc0000gn/T/tmp.04tN1NjG
```

```
20200817150304: OCI Parallel is: 8
```

```
20200817150310: BEGIN
```

```
20200817150310: Starting: "oci --cli-rc-file /dev/null iam compartment list --all --compartment-id-in-subtree true --access-level ACCES
```

```
20200817150318: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..aaa" (3546)
```

```
20200817150318: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..bbb" (26745)
```

```
20200817150318: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..ccc" (1246)
```

```
20200817150318: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..ddd" (25353)
```

```
20200817150318: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..eee" (31713)
```

```
20200817150318: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..fff" (6214)
```

```
20200817150318: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..ggg" (13483)
```

```
20200817150318: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..hhh" (4822)
```

```
20200817150327: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..iii" (14759)
```

```
20200817150327: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..jjj" (22028)
```

```
20200817150327: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..kkk" (13367)
```

```
20200817150327: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..lll" (19728)
```

```
20200817150327: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..mmm" (11067)
```

```
20200817150327: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..nnn" (18336)
```

```
20200817150327: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..ooo" (25605)
```

```
20200817150327: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..ppp" (105)
```

```
20200817150335: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..qqq" (6833)
```

```
20200817150335: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..rrr" (30032)
```

```
20200817150335: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..sss" (21371)
```

```
20200817150335: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.compartment.oc1..ttt" (28640)
```

```
20200817150335: Starting: "oci --cli-rc-file /dev/null compute instance list --all --compartment-id ocid1.tenancy.oc1..uuu" (3141)
```

```
20200817150340: END
```



```
AMAC02SJ3M7G8WN:temp rodrigo.jorge$ cat computes.json | jq
```

```
{
  "data": [
    {
      "agent-config": {
        "is-management-disabled": false,
        "is-monitoring-disabled": false
      },
      "availability-domain": "CYtq:US-ASHBURN-AD-3",
      "compartment-id": "ocid1.compartment.oc1..aaaaaaa2adzntme6rvuim2xkiupjyhizzul2bkxwb2zhsmxgmzdb75d4q",
      "dedicated-vm-host-id": null,
      "defined-tags": {
        "Oracle-Tags": {
          "CreatedBy": "oracleidentitycloudservice/rodrigo.araujo.jorge@gmail.com",
          "CreatedOn": "2020-05-20T14:54:00.387Z"
        }
      },
      "display-name": "oci360comp",
      "extended-metadata": {},
      "fault-domain": "FAULT-DOMAIN-1",
      "freeform-tags": {},
      "id": "ocid1.instance.oc1.iad.anuwcljtucm3wzaczuixibymhvnjhxrvtvcjwjylmmda22l4vjis72mvznyfa",
      "image-id": "ocid1.image.oc1.iad.aaaaaaaahjkmew2pjrcpylaf6zdddtdom6xjnazwptervti35keqd4fdylca",
      "ipxe-script": null,
      "launch-mode": "PARAVIRTUALIZED",
      "launch-options": {
        "boot-volume-type": "PARAVIRTUALIZED",
        "firmware": "UEFI_64",
        "is-consistent-volume-naming-enabled": true,
        "is-pv-encryption-in-transit-enabled": false,
        "network-type": "PARAVIRTUALIZED",
        "remote-data-volume-type": "PARAVIRTUALIZED"
      },
      "lifecycle-state": "RUNNING",
    }
  ]
}
```

oci_json_export.sh ALL_REGIONS

- Will loop over all 142 resource types (and growing) on all the regions.
- Create a ZIP file with one JSON file for each resource.
- Extractor is ready. Now I have 142 json files..
- How to LOAD it in a Database ?



FIND A WAY TO EXTRACT ALL THE METADATA WE HAVE IN OCI...

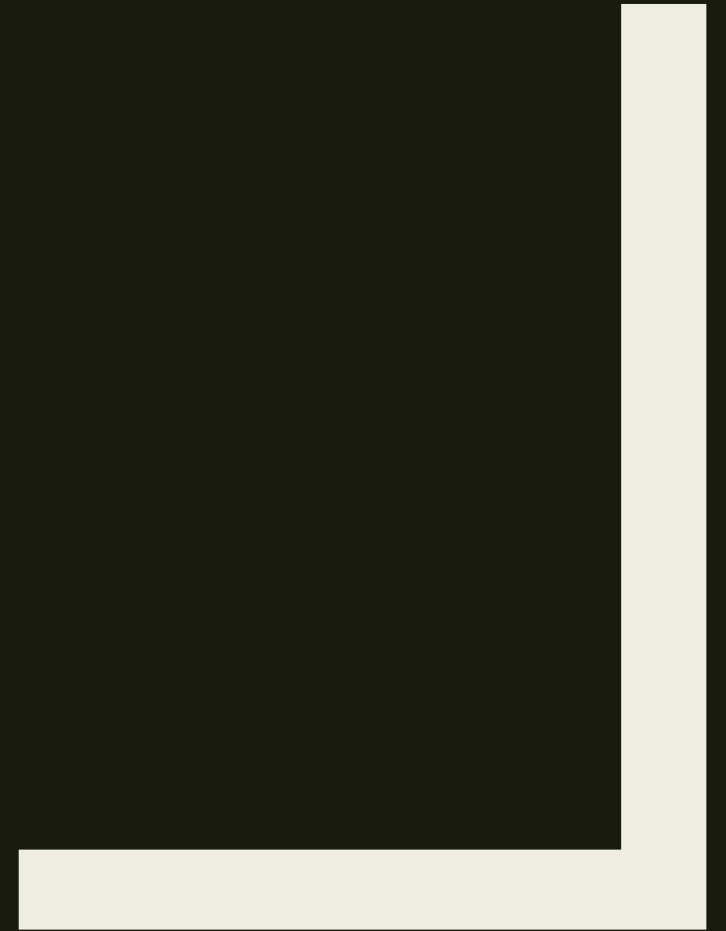


LOAD THIS METADATA SOMEWHERE...



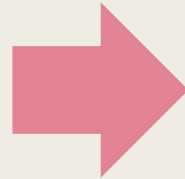
QUERY THIS DATA WITH SQL SO I CAN BUILD ANY IMAGINABLE REPORT!

LOAD



What I wanted?

```
AMAC02SJM7G8WN:temp rodrigo.jorge$ cat computes.json | jq .
{
  "data": [
    {
      "agent-config": {
        "is-management-disabled": false,
        "is-monitoring-disabled": false
      },
      "availability-domain": "CYtq:US-ASHBURN-AD-3",
      "compartment-id": "oci1.compartment.oc1..aaaaaaa2adztme6rvuim2xki1upjyhi2zu12bkxwb2zhsnyxgnzdb75d4q",
      "dedicated-vm-host-id": null,
      "defined-tags": {
        "Oracle-Tags": {
          "CreatedBy": "oracleidentitycloudservice/rodrigo.araujo.jorge@gmail.com",
          "CreatedOn": "2020-05-20T14:54:00.387Z"
        }
      },
      "display-name": "oci360comp",
      "extended-metadata": {},
      "fault-domain": "FAULT-DOMAIN-1",
      "freeform-tags": {},
      "id": "oci1.instance.oc1.iad.anuwx1jtucn3waczuyx1bmvhvjxrtvcjwjylmmda22l4vjis72mvznyfa",
      "image-id": "oci1.image.oc1.iad.aaaaaaaahjkmew2pjrpylaf6zdddton6xjnazwptervti35kead4fdylca",
      "ipxe-script": null,
      "launch-mode": "PARAVIRTUALIZED",
      "launch-options": {
        "boot-volume-type": "PARAVIRTUALIZED",
        "firmware": "UEFI_64",
        "is-consistent-volume-naming-enabled": true,
        "is-pv-encryption-in-transit-enabled": false,
        "network-type": "PARAVIRTUALIZED",
        "remote-data-volume-type": "PARAVIRTUALIZED"
      }
    }
  ],
}
```



```
SQL> desc OCI360_INSTANCES
Name                                         Null?    Type
-----
ID                                           VARCHAR2(128)
SHAPE                                        VARCHAR2(32)
REGION                                       VARCHAR2(4)
IMAGE_ID                                     VARCHAR2(128)
METADATA$SSH_AUTHORIZED_KEYS               VARCHAR2(512)
IPXE_SCRIPT                                 VARCHAR2(4)
LAUNCH_MODE                                 VARCHAR2(16)
SYSTEM_TAGS$ORCL_CLOUD$FREE_TIER_RETAINED VARCHAR2(4)
AGENT_CONFIG$IS_MANAGEMENT_DISABLED        VARCHAR2(8)
AGENT_CONFIG$IS_MONITORING_DISABLED        VARCHAR2(8)
DEFINED_TAGS$ORACLE_TAGS$CREATEDBY         VARCHAR2(64)
DEFINED_TAGS$ORACLE_TAGS$CREATEDON         VARCHAR2(32)
DISPLAY_NAME                                VARCHAR2(16)
FAULT_DOMAIN                                VARCHAR2(16)
```


My options:

- I can use a JSON database and write "JSON" like queries..

OR

- I can convert those JSONs entirely into Relational Tables =
DBMS_JSON

DBMS_JSON

- Only available from 12.2 onwards.
- **CREATE_VIEW_ON_PATH Procedure.**
 - *"Creates a view with relational columns, using top-level scalar values and the scalar values in the expanded sub-tree under a given path. The JSON column must have a data guide-enabled search index."*
- Getting better on latest 19c/20c release.
- Available in Autonomous Database!

Move JSON file inside the Database

```
-- Create table
CREATE TABLE T_TMP_JSON (
  C_TMP_JSON CLOB,
  CONSTRAINT CK_TMP_JSON CHECK (C_TMP_JSON IS JSON)
)
COMPRESS NOMONITORING
LOB(C_TMP_JSON) STORE AS SECUREFILE (COMPRESS HIGH);

-- Load Table
DECLARE
  l_blob BLOB;
BEGIN
  dbms_lob.createtemporary(lob_loc => l_blob, cache => true, dur => dbms_lob.call);

  l_blob := DBMS_CLOUD.GET_OBJECT(
    credential_name => 'OCI360_CRED',
    object_uri => 'https://objectstorage.us-ashburn-1.oraclecloud.com/n/idgimbpbaoa7/b/oci360_bucket/o/computes.json');

  INSERT INTO T_TMP_JSON (C_TMP_JSON)
  SELECT to_clob(l_blob, 871, 'text/json') FROM dual; -- 871 = UTF8

  COMMIT;

  -- Free temporary BLOBs.
  DBMS_LOB.FREETEMPORARY(l_blob);

END;
/
```

Generate a View on JSON Path

```
-- Just to print the code on log file for troubleshooting.
SET PAGES 0 LONG 2000000000 LINES 10000
COL VIEW_CODE FOR A1000
SELECT DBMS_METADATA.GET_DDL('VIEW', 'V_TMP_JSON') VIEW_CODE
FROM DUAL
WHERE EXISTS (SELECT 1
              FROM   USER_VIEWS
              WHERE  VIEW_NAME = 'V_TMP_JSON');
SET PAGES 1000 LINES 80

-- Create index
CREATE SEARCH INDEX I_TMP_JSON
ON T_TMP_JSON (C_TMP_JSON) FOR JSON
PARAMETERS ('SEARCH_ON NONE DATAGUIDE ON');

-- Create view.
DECLARE
    empty_data_guide EXCEPTION;
    PRAGMA EXCEPTION_INIT(empty_data_guide , -40591);
BEGIN
    DBMS_JSON.CREATE_VIEW_ON_PATH(
        viewname => 'V_TMP_JSON',
        tablename => 'T_TMP_JSON',
        jcolname => 'C_TMP_JSON',
        path => '$.data',
        frequency => 0);
EXCEPTION
    WHEN empty_data_guide THEN
        DBMS_OUTPUT.PUT_LINE('Empty JSON.');
```

-- handle the error

```
END;
/
```

Create the Table over the View

```
-- Create table.  
CREATE TABLE OCI360_COMPUTES  
COMPRESS FOR QUERY HIGH NOMONITORING  
AS  
SELECT *  
FROM V_TMP_JSON;  
  
-- Query  
select "C_TMP_JSON$displayname" Name,  
       "C_TMP_JSON$ocpus" OCPUs,  
       "C_TMP_JSON$shape" Shape  
from OCI360_COMPUTES;
```

NAME	OCPUS	SHAPE
oci360comp	1	VM.Standard.E2.1.Micro

So now how do I load'em all?!

- FOR *file* in < oci_json_export.sh output ZIP >
 - *Call LOAD SQL:*
 - Move Json Inside the Database.
 - Generate View on Json PATH.
 - Create the final Table over the View.

Finally I have the OCI metadata model

```
SQL> desc OCI360_INSTANCES
Name                                     Null?   Type
-----
ID                                       VARCHAR2(128)
SHAPE                                    VARCHAR2(32)
REGION                                   VARCHAR2(4)
IMAGE_ID                                 VARCHAR2(128)
METADATA$SSH_AUTHORIZED_KEYS            VARCHAR2(512)
IPXE_SCRIPT                              VARCHAR2(4)
LAUNCH_MODE                              VARCHAR2(16)
SYSTEM_TAGS$ORCL_CLOUD$FREE_TIER_RETAINED VARCHAR2(4)
AGENT_CONFIG$IS_MANAGEMENT_DISABLED     VARCHAR2(8)
AGENT_CONFIG$IS_MONITORING_DISABLED     VARCHAR2(8)
DEFINED_TAGS$ORACLE_TAGS$CREATEDBY     VARCHAR2(64)
DEFINED_TAGS$ORACLE_TAGS$CREATEDON     VARCHAR2(32)
DISPLAY_NAME                             VARCHAR2(16)
FAULT_DOMAIN                             VARCHAR2(16)
```

```
SQL> desc OCI360_VNICs
Name                                     Null?   Type
-----
ID                                       VARCHAR2(128)
NSG_IDS                                 VARCHAR2(4000)
PUBLIC_IP                                VARCHAR2(16)
SUBNET_ID                                 VARCHAR2(128)
IS_PRIMARY                               VARCHAR2(4)
PRIVATE_IP                               VARCHAR2(16)
MAC_ADDRESS                              VARCHAR2(32)
```

```
SQL> desc OCI360_VNIC_ATTACHS
Name                                     Null?   Type
-----
ID                                       VARCHAR2(128)
VNIC_ID                                 VARCHAR2(128)
VLAN_TAG                                 NUMBER
NIC_INDEX                                NUMBER
SUBNET_ID                                 VARCHAR2(128)
INSTANCE_ID                              VARCHAR2(128)
DISPLAY_NAME                             VARCHAR2(4)
TIME_CREATED                             VARCHAR2(32)
COMPARTMENT_ID                           VARCHAR2(128)
LIFECYCLE_STATE                           VARCHAR2(8)
AVAILABILITY_DOMAIN                       VARCHAR2(32)
```

```
SQL> select table_name
       from user_tables
       where table_name like 'OCI360_%'
       order by 1;
```


All Instances and their primary IPs ?

```
SELECT distinct t1.id,
               t1.display_name,
               t1.shape,
               t1.region,
               t1.availability_domain,
               t1.lifecycle_state,
               t3.display_name image_name,
               t3.operating_system,
               t3.operating_system_version,
               t1.fault_domain,
               t1.time_created,
               t2.name compartment_name,
               t5.private_ip ip_address_pri_primary,
               t5.public_ip ip_address_pub_primary
FROM   OCI360_INSTANCES t1, OCI360_COMPARTMENTS t2, OCI360_IMAGES t3, OCI360_VNIC_ATTACHS t4,
       OCI360_VNICS t5
WHERE  t1.image_id = t3.id (+)
AND    t1.compartment_id = t2.id (+)
AND    t1.id = t4.instance_id
AND    t4.lifecycle_state = 'ATTACHED'
AND    t4.vnic_id = t5.id
AND    t5.is_primary = 'true'
AND    t5.lifecycle_state = 'AVAILABLE';
```

Total storage usage per compute ?

```
WITH t1 AS (SELECT * FROM oci360_instances),
     t2 AS (SELECT * FROM oci360_vol_attachs),
     t3 AS (SELECT * FROM oci360_volumes),
     t4 AS (SELECT * FROM oci360_bv_attachs),
     t5 AS (SELECT * FROM oci360_bvolumes)
SELECT t1.display_name           INSTANCE_NAME,
       COUNT(*)                 TOTAL_VOLS,
       TO_NUMBER(t5.size_in_gbs) BOOTVOL_SIZE_GBS,
       SUM(nvl(t3.size_in_gbs,0)) VOL_SIZE_GBS,
       t5.size_in_gbs + SUM(nvl(t3.size_in_gbs,0)) TOTAL_SIZE_GBS,
       t1.id                     INSTANCE_ID
FROM   t1, t2, t3, t4, t5
WHERE  t1.id = t2.instance_id(+)
AND    t2.volume_id = t3.id(+)
AND    t2.lifecycle_state(+) = 'ATTACHED'
AND    t1.id = t4.instance_id
AND    t4.boot_volume_id = t5.id
GROUP BY t1.id, t1.display_name, t5.size_in_gbs
ORDER BY total_size_gbs DESC;
```

of used IPs per subnet ?

```
SELECT tsub.display_name,
       tvcn.DISPLAY_NAME VCN_NAME,
       tcomp.NAME COMPARTMENT_NAME,
       tsub.cidr_block,
       power(2,32-substr(tsub.cidr_block,instr(tsub.cidr_block,'/')+1))-3 TOTAL_AVAILABLE,
       count(tpip.id) TOTAL_USED,
       power(2,32-substr(tsub.cidr_block,instr(tsub.cidr_block,'/')+1))-3 - count(tpip.id) TOTAL_FREE,
       tsub.id
FROM   (SELECT distinct id, compartment_id, vcn_id, display_name, cidr_block FROM OCI360_SUBNETS) tsub,
       OCI360_PRIVATEIPS tpip,
       OCI360_COMPARTMENTS tcomp,
       OCI360_VCNS tvcn
WHERE  substr(tsub.id,instr(tsub.id,'.',1,3)+1,instr(tsub.id,'.',1,4)-instr(tsub.id,'.',1,3)-1) = 'iad'
AND    tsub.compartment_id = tcomp.ID
AND    tsub.id = tpip.SUBNET_ID (+)
AND    tsub.VCN_ID = tvcn.ID
GROUP BY tsub.display_name,
         tsub.cidr_block,
         tsub.id,
         tcomp.NAME,
         tvcn.DISPLAY_NAME;
```



FIND A WAY TO EXTRACT ALL THE METADATA WE HAVE IN OCI...

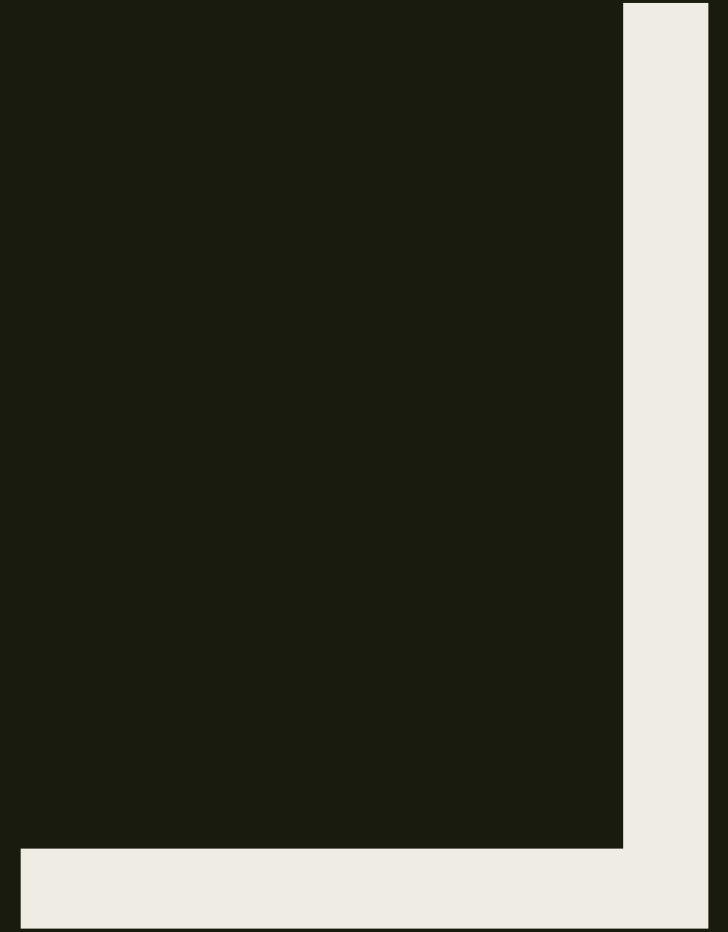


LOAD THIS METADATA SOMEWHERE...



QUERY THIS DATA WITH SQL SO I CAN BUILD ANY IMAGINABLE REPORT!

REPORT



MOAT369 !

- Mother of All Tools 369
- HTML sqlplus API created based on edb360.
- GPL v3
- Use Google Charts + D3.js
- <https://github.com/dbarj/moat369>



OCI360



WHAT IS OCI360

- Extractor + Loader + Reporter in one single place.
- Collects OCI Metadata (no computes / volumes data).
- Develops a user friendly and comprehensive view of your tenancy.
- Provides insights about the current configuration and future growth projections.
- Provides a human readable output of your cloud state that allows quicker analysis and faster optimization of resources.

Where is the tool?

- Download:

- <https://github.com/dbarj/oci360>

- Instructions (Wiki):

- <https://github.com/dbarj/oci360/wiki>

- Sample Report:

- <http://oci360.dbarj.com.br/>



GitHub - dbarj/oci360: Oracle Cloud Infrastructure 360-degree View

github.com/dbarj/oci360

Why GitHub? Team Enterprise Explore Marketplace Pricing

Search Sign in Sign up

dbarj / oci360

Watch 15 Star 43 Fork 13

Code Issues Pull requests Actions Projects Wiki Security Insights

Join GitHub today

GitHub is home to over 50 million developers working together to host and review code, manage projects, and build software together.

Sign up

Dismiss

master 2 branches 2 tags

Go to file Code

About

Oracle Cloud Infrastructure 360-degree View

Readme View license

Releases

2 tags

Languages


PLSQL	35.8%
Shell	19.6%
TSQL	16.9%
JavaScript	12.8%

dbarj v20.06 ... 7e2f814 on Jun 30 8 commits		
js	v2002 (#2)	7 months ago
moat369	v20.06	2 months ago
sh	v20.06	2 months ago
sql	v20.06	2 months ago
.gitignore	v2001 (#1)	7 months ago
CHANGELOG.md	v20.06	2 months ago
LICENSE	v2001 (#1)	7 months ago
LICENSE-3RD-PARTY	v2001 (#1)	7 months ago
README.md	v20.06	2 months ago

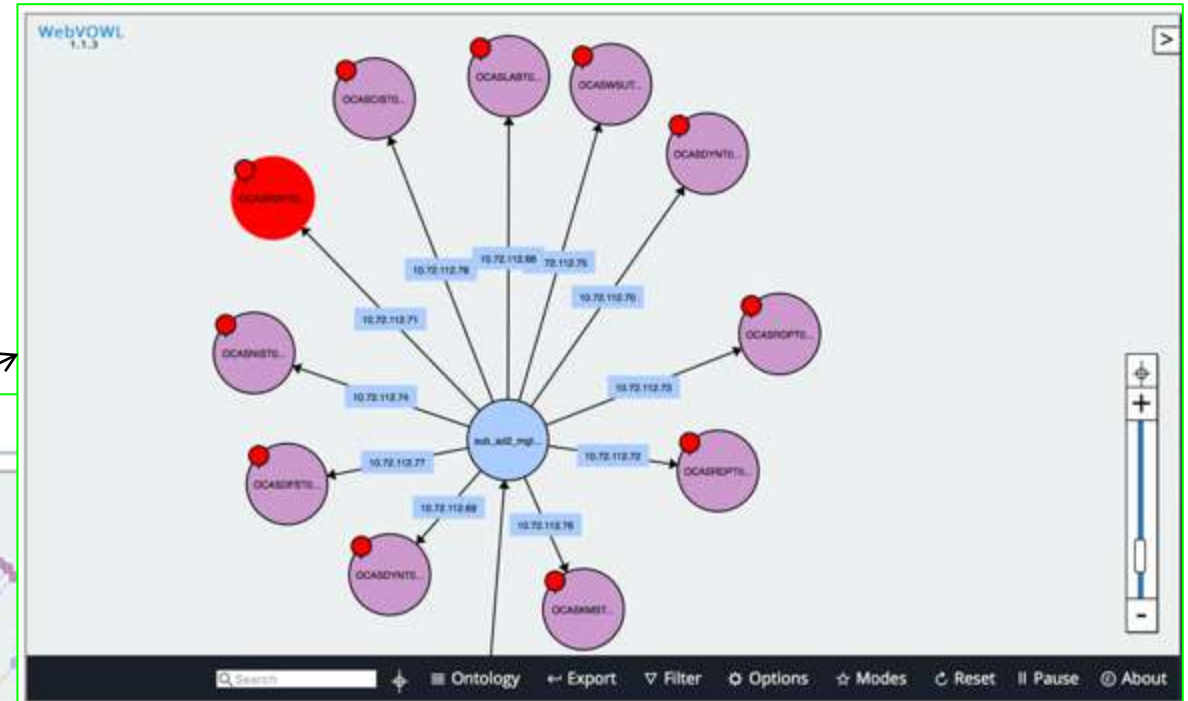
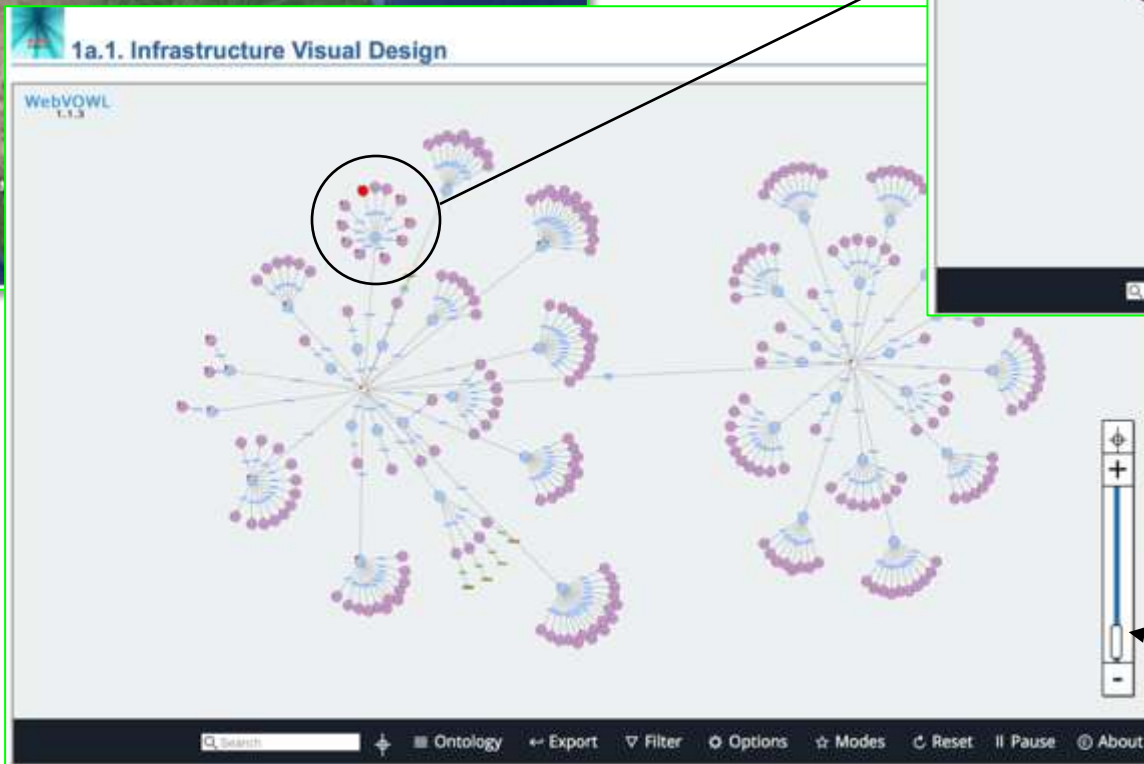
OCI360 OUTPUT

oci360 v1903: Enkitech 360-degree Full View on Oracle Cloud Infrastructure.

This report covers the time interval between 2019-01-11 and 2019-02-12. Days:31. Timestamp:2019-02-11/11:27:16.

1/8	2/8	3/8	4/8	5/8
 1a. OCI Infrastructure <ul style="list-style-type: none">1. Infrastructure Visual Design html (1) 1b. Tenancy Information <ul style="list-style-type: none">2. Region Subscription html (5)3. Region Map html map (4)4. Compartments html (18)5. ADs html (13)6. Fault Domains html (702)7. Space Utilization Summary html bar (5)8. Utilization Tree Map html treemap (226) 1c. Compute Instances <ul style="list-style-type: none">9. Compute Instances html (36)10. Compute Instances - Raw html (36)11. Compute Instances per Compartment html pie (6)12. Compute Instances per Shape html pie (7)13. Shapes html (28)14. Shapes per Compartment html (504)15. Console Connections html (13)16. Console History html (-1)17. Instance Costs estimations html (36) 1d. Compute Management <ul style="list-style-type: none">18. Instance Configurations html (-1)19. Instance Configuration Deferred Fields html (-1)20. Instance Configuration Details html (-1)21. Instance Pools html (-1)22. Instance Pool Members html (-1)	2a. Volumes <ul style="list-style-type: none">29. Volumes html (45)30. Total Instance Volumes html (36)31. Unallocated Volumes html (13)32. Volume Attachments html (32)33. Volume Groups html (-1)34. Volume Group Sources html (-1)35. Volumes without a backup policy html (43)36. Volumes without full backup in last 30 days html (45)37. Volumes latest backup html (45)38. Volumes Backup Size Percentile html (45) 2b. Volumes Backups <ul style="list-style-type: none">39. Volume Backups - Available html (21)40. Volume Backups - Not Available html (0)41. Backup Policies html (18)42. Backup Policies Assignments html (2)43. Volume Group Backups html (-1)44. Volume Group Backups - Volume Backup IDs html (-1)45. Incremental Vol Backups without a prior Full html (19)46. Backups for terminated Volumes html (0)47. Total Volume Backup Forecast (By Volume) html (45)48. Total Volume Backups Forecast html line (220)49. Total Volume Backups Size Forecast - Avg html line (73)50. Total Volume Backups Cost Forecast - Avg html line (73) 2c. Boot-Volumes <ul style="list-style-type: none">51. Boot-Volumes html (60)52. Unallocated Boot-Volumes html (24)53. Boot-Volume Attachments html (36)54. Boot-Volumes without a backup policy html (60)55. Boot-Volumes without full backup in last 30 days html (58)56. Boot-Volumes latest backup html (60)57. Boot-Volumes Backup Size Percentile html (60) 2d. Boot-Volumes Backups <ul style="list-style-type: none">58. Boot-Volume Backups - Available html (5)59. Boot-Volume Backups - Not Available html (0)60. Incremental BV Backups without a prior Full html (0)61. Backups for terminated BVs html (0)62. Total Boot-Volume Backup Forecast (By BV) html (60)63. Total Boot-Volume Backups Forecast html line (220)64. Total BV Backups Size Forecast - Avg html line (73)65. Total BV Backups Cost Forecast - Avg html line (73) 2e. File Storage	3a. Virtual Cloud Network 3a.1. eu-frankfurt-1 <ul style="list-style-type: none">81. VNICs html (0)82. VNIC Attachments html (0)83. Subnets html (3)84. Used IPs per Subnets html (3)85. DHCP Options html (3)86. Route Tables html (7)87. Internet Gateways html (2)88. NAT Gateways html (0)89. DRGs html (0)90. DRG Attachments html (0)91. Fast-Connect Provider Services html (9)92. Local Peering Gateways html (2)93. Remote Peering Connections html (0)94. Network Services html (1)95. Network Service Gateways html (0)96. VCNs html (2)97. Private IPs html (0)98. Public IPs html (0)99. VCN Map html circle (0) 3a.2. us-ashburn-1 <ul style="list-style-type: none">100. VNICs html (43)101. VNIC Attachments html (39)102. Subnets html (59)103. Used IPs per Subnets html (59)104. DHCP Options html (53)105. Route Tables html (61)106. Internet Gateways html (21)107. NAT Gateways html (2)108. DRGs html (3)109. DRG Attachments html (2)110. Fast-Connect Provider Services html (14)111. Local Peering Gateways html (10)112. Remote Peering Connections html (1)113. Network Services html (1)114. Network Service Gateways html (3)115. VCNs html (26)116. Private IPs html (45)117. Public IPs html (39)118. VCN Map html circle (125) 3a.3. us-phoenix-1 <ul style="list-style-type: none">119. VNICs html (3)120. VNIC Attachments html (3)121. Subnets html (10)122. Used IPs per Subnets html (10)123. DHCP Options html (10)124. Route Tables html (9)	4a. Load Balance <ul style="list-style-type: none">195. Load Balancers html (-1)196. Load Balancer Subnets html (2)197. Load Balancers Health html (1)198. Backend-Sets html (2)199. Backend-Sets Health html (2)200. Backends html (2)201. Backends Health html (4)202. Certificates html (-1)203. Health Checks html (1)204. Hostnames html (-1)205. Path Routes html (-1)206. Policies html (54)207. Protocols html (54)208. Shapes html (54)209. Work Requests html (-1) 4b. DNS Zones <ul style="list-style-type: none">210. Zones html (10) 4c. Email Delivery <ul style="list-style-type: none">211. Approved senders html (-1)212. Email suppression html (-1)	5a. Identity and Access Management <ul style="list-style-type: none">213. Users html (9)214. Groups html (35)215. Dynamic Groups html (2)216. Policies html (14)217. Policy Statements html (58)218. Users Auth Tokens html (1)219. Users SMTP Credentials html (-1)220. Users Secret Keys html (3)221. All Regions html (5)222. Tags html (14)223. Tag Namespaces html (5)224. Work Requests html (-1) 5b. Audit <ul style="list-style-type: none">225. Audit Events html (-1)226. Request Events per User html (-1) 5c. Key Management Service <ul style="list-style-type: none">227. Vaults html (-1)228. Keys html (-1)229. Key Versions html (-1)230. Boot-Volume Keys html (-1)231. Volume Keys html (-1) 5d. Cloud Billing <ul style="list-style-type: none">232. Service Entitlements html (54)233. Service Resources html (604)234. Resources Unit Prices html (16)235. Cost division per Service html pie (5)236. Cost division per Resource html pie (15)237. Cost per Hour html line (1434)238. Cost per Day html line (59)239. Used Quota html line (1295)240. Last Computed Usage Costs html (2000)241. Last Computed Usage Costs Tagged html (2000)242. Last Computed Usage html (2000)243. Usage Tags html (89)244. Account Details html (1)245. Account Balance html (12)246. Account Purchase html (12)247. Account Running Balance html (12)248. Check Quota html (755)249. Promotions html (1)250. Cloud Limits html (1)251. Raw Computed Usage Costs Tagged csv (16961)

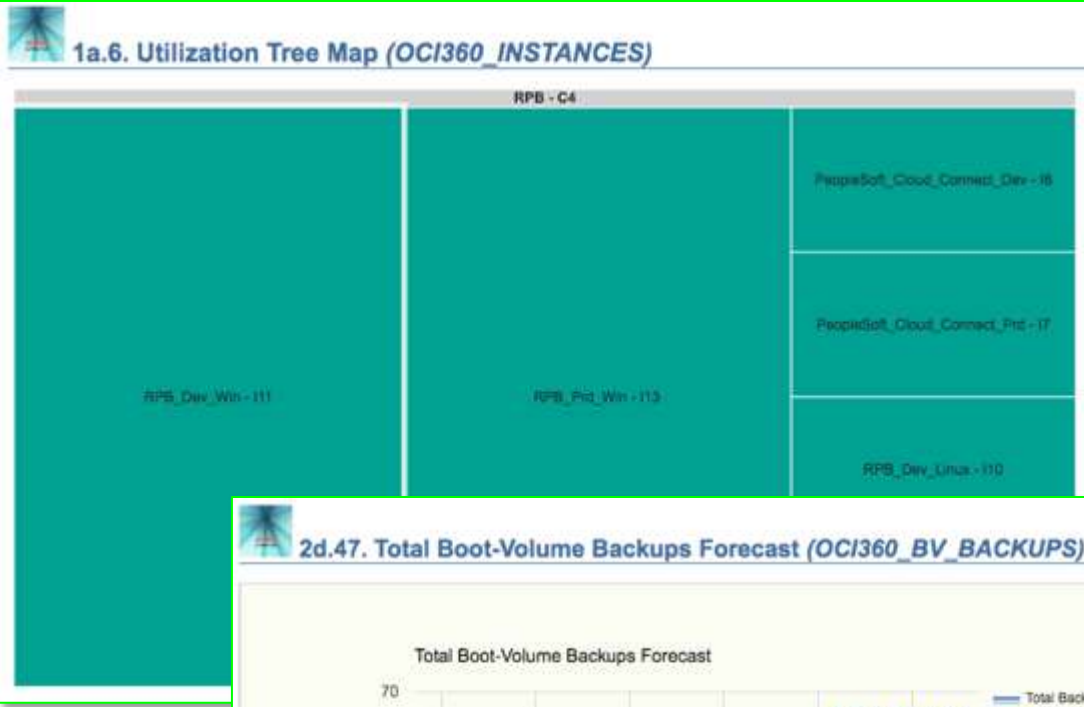
EXAMPLE: NETWORK TOPOLOGY



Searching and filtering

Zoom

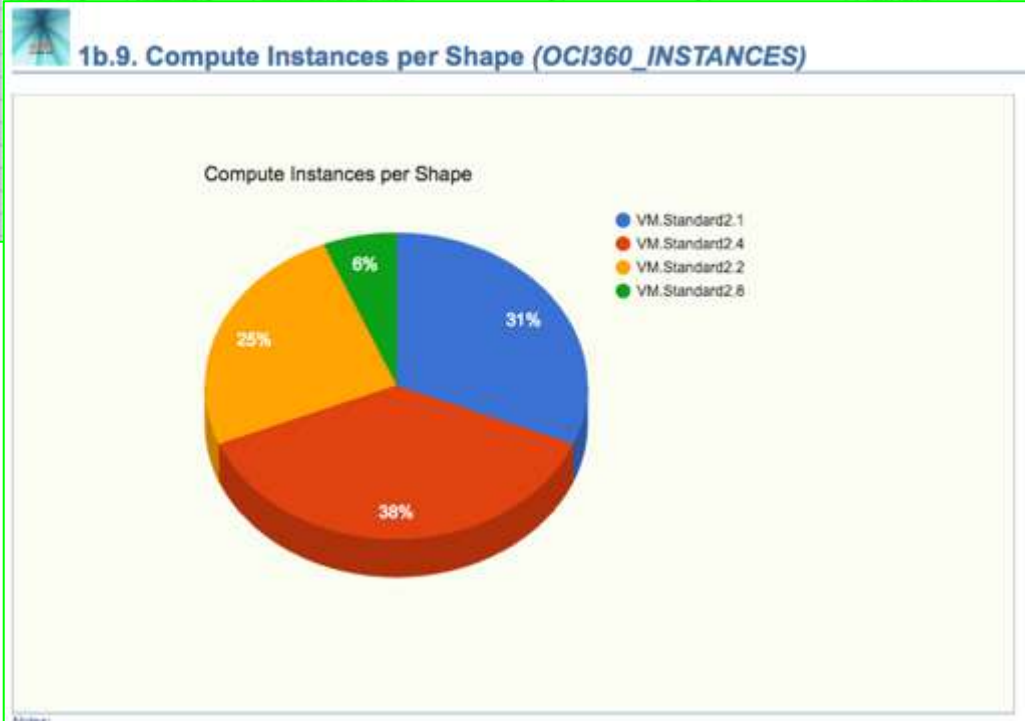
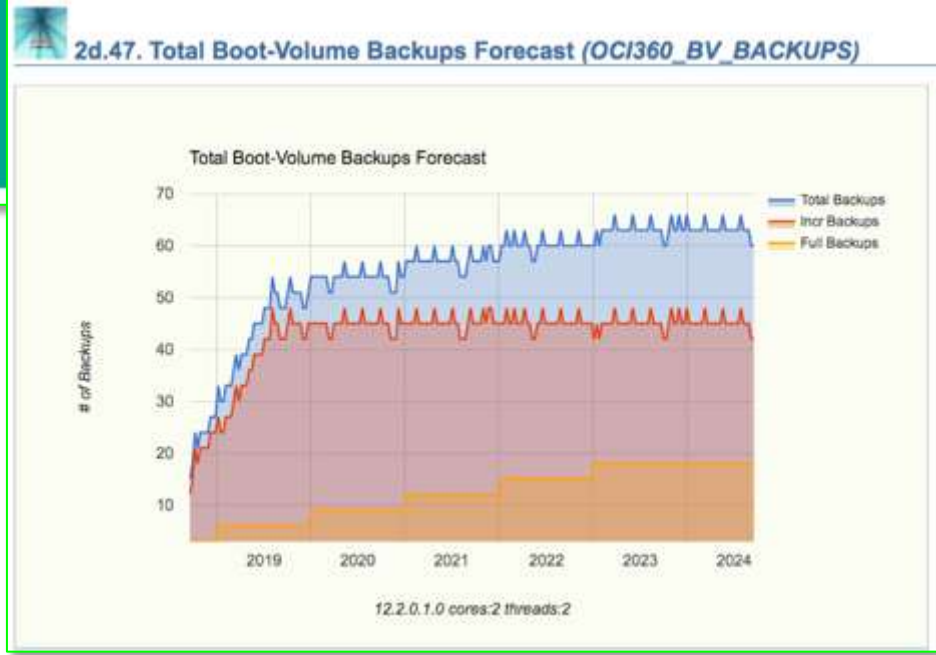
OTHER EXAMPLES



Sa.174. Database System Shapes (OCI360_DB_SYSTEM_SHAPES)

Rows: 450

#	NAME	SHAPE	COMPARTMENT_ID	MAXIMUM_NODE_COUNT	MINIMUM_CORE_COUNT	MINIMUM_NODE_COUNT	AVAILABILITY_DOMAIN	AVAILABLE_CORE_COUNT
1	VM.Standard1.1	VM.Standard1.1	oci1.compartment.oc1...300E	1	1	1	TBKPXKAD-1	1
2	VM.Standard2.1	VM.Standard2.1	oci1.compartment.oc1...300E	1	1	1	TBKPXKAD-1	1
3	VM.Standard1.1	VM.Standard1.1	oci1.compartment.oc1...300E	1	1	1	TBKPXKAD-1	1
4	VM.Standard2.1	VM.Standard2.1	oci1.compartment.oc1...300E	1	1	1	TBKPXKAD-1	1
5	VM.Standard1.1	VM.Standard1.1	oci1.compartment.oc1...300E	1	1	1	TBKPXKAD-1	1
6	VM.Standard2.1	VM.Standard2.1	oci1.compartment.oc1...300E	1	1	1	TBKPXKAD-1	1
7	VM.Standard1.1	VM.Standard1.1	oci1.compartment.oc1...300E	1	1	1	TBKPXKAD-1	1
8	VM.Standard2.1	VM.Standard2.1	oci1.compartment.oc1...300E	1	1	1	TBKPXKAD-1	1
9	VM.Standard1.2	VM.Standard1.2	oci1.compartment.oc1...300E	2	2	1	TBKPXKAD-1	2
10	VM.Standard2.2	VM.Standard2.2	oci1.compartment.oc1...300E	2	2	1	TBKPXKAD-1	2
11	VM.Standard1.2	VM.Standard1.2	oci1.compartment.oc1...300E	2	2	1	TBKPXKAD-1	2
12	VM.Standard2.2	VM.Standard2.2	oci1.compartment.oc1...300E	2	2	1	TBKPXKAD-1	2
13	VM.Standard1.2	VM.Standard1.2	oci1.compartment.oc1...300E	2	2	1	TBKPXKAD-1	2
14	VM.Standard2.2	VM.Standard2.2	oci1.compartment.oc1...300E	2	2	1	TBKPXKAD-1	2
15	VM.Standard1.2	VM.Standard1.2	oci1.compartment.oc1...300E	2	2	1	TBKPXKAD-1	2
16								



SERVER SPECS TO RUN OCI360

- 2 CPUs
- 8 GiB RAM
- Linux 7
- Oracle XE 18c / Free ADB
- 50 GiB

ONLINE MODE

- **EXTRACTOR + CONVERTER + REPORTER** are automated in a webserver (at the customer).
- Near **REALTIME** view of account Tenancy.
- Possibility to check past OCI snapshots for auditing.

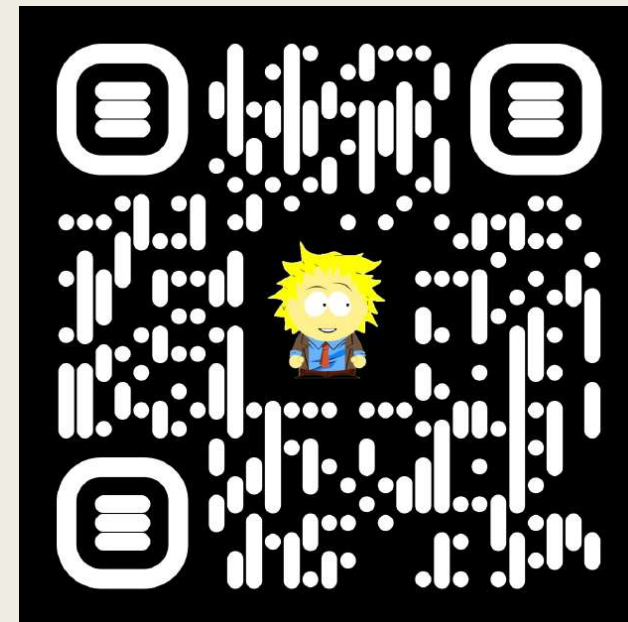
FAQ

- How long it takes to run?
- How do I create my own SQLs on it?
- Can I run only a set of the whole output?

About

 @rodrigojorgedba

 /rodrigoaraujorge



DBA - Rodrigo Jorge - Oracle Tips and Guides

Blog about Databases, Security and High Availability

www.dbarj.com.br

QUESTIONS ?!

