

Essential Cloud Operations (lab2)

2.1.1 IaC with Terraform

Compute

Instances in TF-Lab1 Compartment

An [instance](#) is a compute host. Choose between virtual machines (VMs) and bare metal instances. The image that you use to launch an instance determines its operating system and other software.

Each tenancy gets the first 3,000 OCPU hours and 18,000 GB hours per month for free to create Ampere A1 Compute instances using the VM.Standard.A1.Flex shape (equivalent to 4 OCPUs and 24 GB of memory). Each tenancy also gets two VM.Standard.E2.1.Micro instances for free. [Learn more about Always Free resources](#)

Create instance Table settings

Name	State	Public IP	Private IP	Shape	OCPU count	Memory (GB)	Availability domain	Fault domain	Created
Ubuntu Instance	Running	141.144.199.254	10.1.0.121	VM.Standard....	1	1	AD-1	FD-1	Thu, Apr 6,...

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
+ source_id = "oci1.image.oc1.eu-amsterdam-1.aaaaaaa4yojwha4rdsnagwul4ncgy45lx7q2g3pd5ru2io6rsx6pog35mfq"
+ source_type = "image"
}
}

Plan: 1 to add, 0 to change, 0 to destroy.

Changes to Outputs:
+ instance_ip = (known after apply)

Do you want to perform these actions?
Terraform will perform the actions described above.
Only 'yes' will be accepted to approve.

Enter a value: yes

oci_core_instance.ubuntu_oci_instance: Creating...
oci_core_instance.ubuntu_oci_instance: Still creating... [10s elapsed]
oci_core_instance.ubuntu_oci_instance: Still creating... [20s elapsed]
oci_core_instance.ubuntu_oci_instance: Still creating... [30s elapsed]
oci_core_instance.ubuntu_oci_instance: Still creating... [40s elapsed]
oci_core_instance.ubuntu_oci_instance: Still creating... [50s elapsed]
oci_core_instance.ubuntu_oci_instance: Still creating... [1m0s elapsed]
oci_core_instance.ubuntu_oci_instance: Still creating... [1m10s elapsed]
oci_core_instance.ubuntu_oci_instance: Still creating... [1m20s elapsed]
oci_core_instance.ubuntu_oci_instance: Still creating... [1m30s elapsed]
oci_core_instance.ubuntu_oci_instance: Creation complete after 1m38s [id=oci1.instance.oc1.eu-amsterdam-1.anqw2ljlacd53ycknbhij2l56mt3e5c4xmds3j6esvhgqdqrb2vea]

Apply complete! Resources: 1 added, 0 changed, 0 destroyed.

Outputs:
instance_ip = "141.144.199.254"
private_subnet_id = "oci1.subnet.oc1.eu-amsterdam-1.aaaaaaaftjsabdkaavxiqikmf3lrcrrxlzprlgupc6t46dbfhuhszgjq"
public_subnet_cidr = "10.1.0.0/24"
public_subnet_id = "oci1.subnet.oc1.eu-amsterdam-1.aaaaaaaavjh7itxkoogx36uxome4d36c36qb7lin74ec22saj2ujl77vgunq"
security_list_id = "oci1.securitylist.oc1.eu-amsterdam-1.aaaaaaaav5pnr-fuhnmcxkffridzjb7hjklimf3cdcvcrjeivmobfhckka"
vcn_id = "oci1.vcn.oc1.eu-amsterdam-1.aaaaaaaalacd53yarfxa47d56cyjq6qct17qdvh5cgfefvkuctc5vhtb5va"
```

2.2 Block Storage Backup

Block Storage > Block Volumes > Block Volume Details

BV

AVAILABLE

BlockVolume1

Always Free

Edit

Move Resource

Add tags

Terminate

Block Volume Information

Tags

Availability Domain: VOWX:eu-amsterdam-1-AD-1

Compartment: h20asmhu (root)/Sandbox

OCID: ...l7pcya Show Copy

Created: Thu, Mar 16, 2023, 15:29:57 UTC

Size: 50 GB ⓘ

Auto-tune Performance Policies

Performance Based Auto-tune: Off ⓘ

Detached Volume Auto-tune: Off ⓘ

Performance

Performance: Balanced (VPU/GB:10) ⓘ

Hydrated: true

Encryption Key: Oracle-managed key Assign

Volume Group: None

Scheduled Backups

Managed by: Volume ⓘ

Backup Policy: Gold ⓘ

Cross Region Copy Target: None ⓘ

Cross Region Replication

Managed by: Volume ⓘ

Cross Region Replication: Off ⓘ

id

Netherlands Northwest (Amsterdam)

Block Volume Backups *in Sandbox Compartment*

Name	State	Backup Source	Source Region	Backup Type	Backup Size / Volume Size (in GB)	Source Type	Expiration	Created ▾
Backup_1 <div>Always Free</div>	<div></div> Available	BlockVolume1	Netherlands Northwest (Amsterdam)	Full	1 / 50	Manual		Thu, Mar 16, 2023, 15:33:32 UTC

Showing 1 Item < 1 of 1

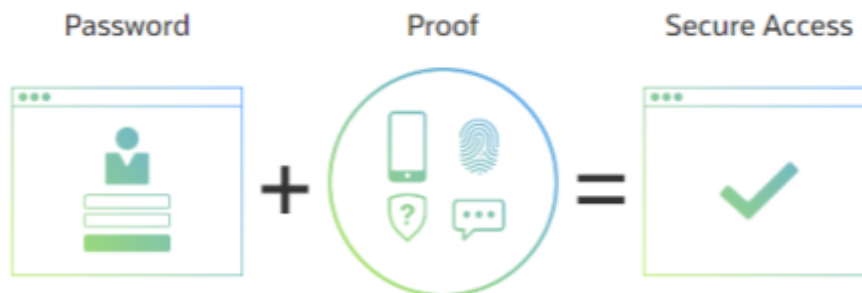
2.5.1 OCI MFA

Identity domain ⓘ

Default

Enable Secure Verification

Secure verification methods prove who you are. Two types of verification methods are passwordless and multi-factor authentication (MFA). Passwordless verification allows you to verify your identity without requiring you to remember a password. MFA is an extra security step to the authentication process. Your administrator might have set up one or both verification methods and require that you enroll in them before accessing your account.



Click below to enable secure verification methods for your account.

[Enable Secure Verification](#)

ORACLE Cloud

h20asmhu

h20asmhu@du.se

Identity domain ⓘ

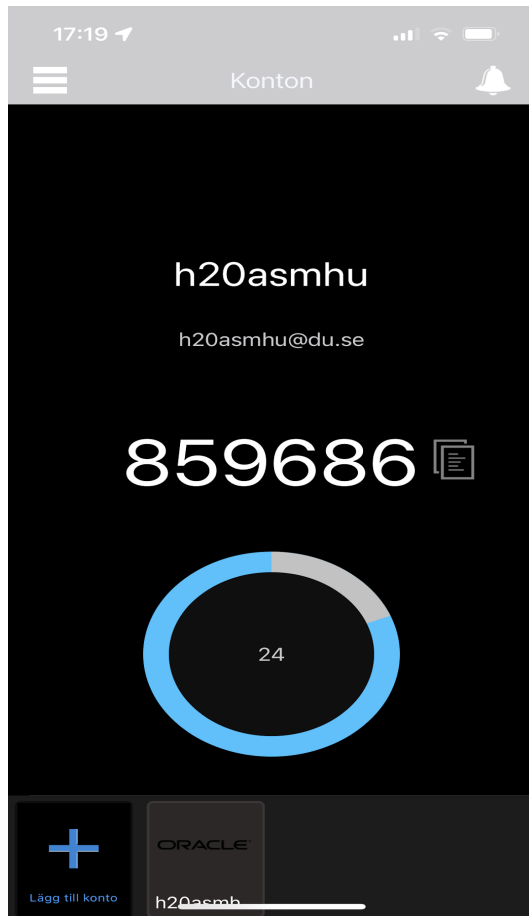
Default

A notification has been sent to **iPhone**. Open the notification, and then tap **Allow** to continue

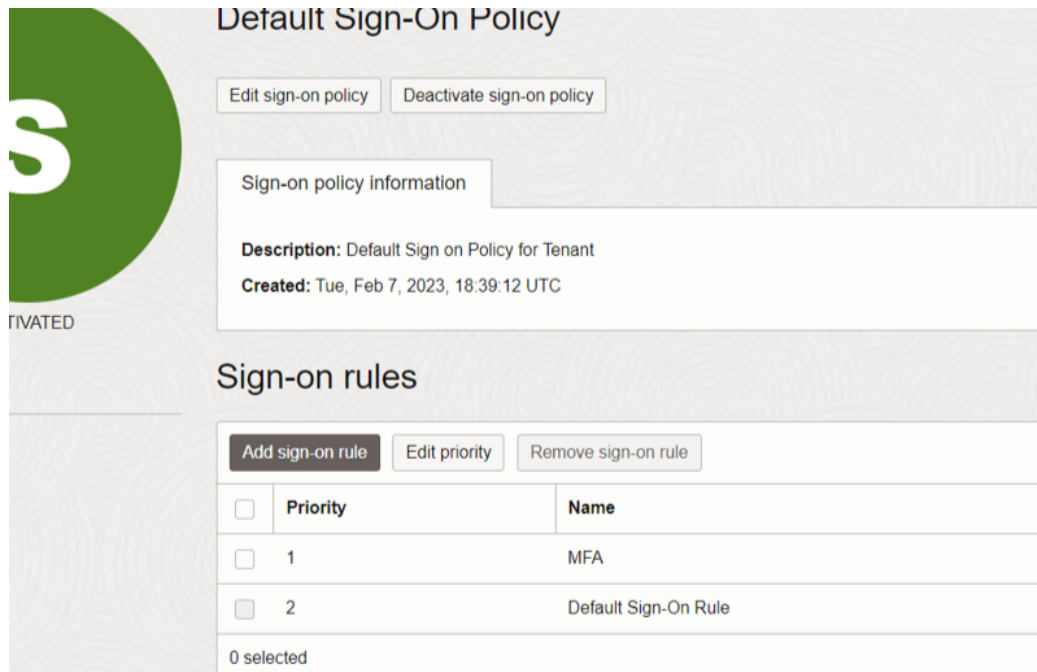


☐ Trust this device for 15 day(s)

[Show alternative login methods](#)



When I was doing this task, I accidentally locked myself out so I was not able to login. I could not use my admin account because I have changed account priority to MFA before.



The image shows a web interface for configuring a 'Default Sign-On Policy'. On the left is a green circular logo with a white 'S' and the word 'ACTIVATED' below it. The main heading is 'Default Sign-On Policy'. Below it are two buttons: 'Edit sign-on policy' and 'Deactivate sign-on policy'. A tab labeled 'Sign-on policy information' is active, showing a 'Description' of 'Default Sign on Policy for Tenant' and a 'Created' timestamp of 'Tue, Feb 7, 2023, 18:39:12 UTC'. Below this is a section for 'Sign-on rules' with buttons for 'Add sign-on rule', 'Edit priority', and 'Remove sign-on rule'. A table lists two rules: Rule 1 with priority '1' and name 'MFA', and Rule 2 with priority '2' and name 'Default Sign-On Rule'. At the bottom, it says '0 selected'.

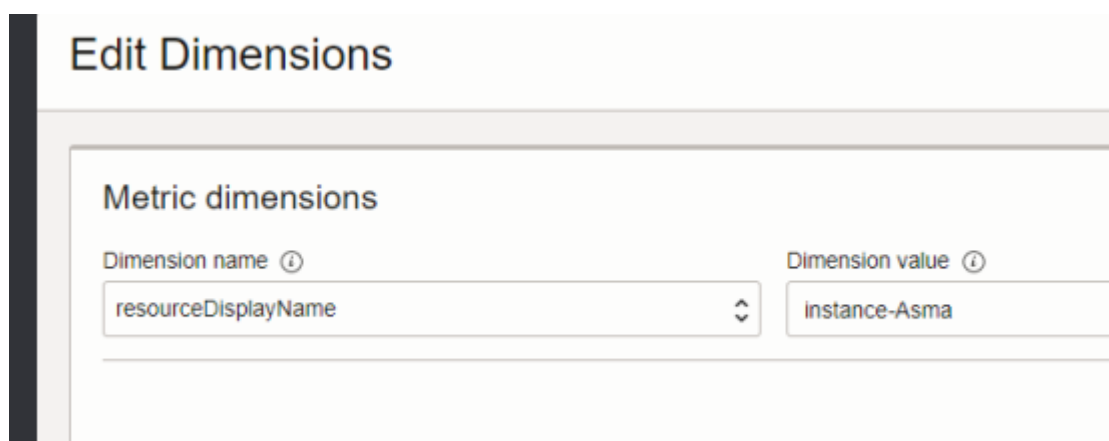
<input type="checkbox"/>	Priority	Name
<input type="checkbox"/>	1	MFA
<input type="checkbox"/>	2	Default Sign-On Rule

0 selected

So there is no way for me to login. I have emailed Oracle help. I am waiting for their response. Meanwhile, I have tried to create new Oracle accounts, but it did not work at all.

So I have used Laila Assadis account to do the rest of the lab. I hope that is acceptable.

2.6.1 Cloud logging



The image shows a web interface titled 'Edit Dimensions'. Under the heading 'Metric dimensions', there are two input fields. The first is labeled 'Dimension name' with a help icon, containing the text 'resourceDisplayName'. The second is labeled 'Dimension value' with a help icon, containing the text 'instance-Asma'.

Dimension name ⓘ	Dimension value ⓘ
resourceDisplayName	instance-Asma

: TIVE

Edit

Add tags

Delete

Tags

Compartment: h20laiaa (root)

Created: Fri, Mar 17, 2023, 13:03:43 UTC

Created: Fri, Mar 17, 2023, 13:03:43 UTC

Retention Period: 1 month (default) (30 days)

Legacy Archival Logs: Disabled

Status: ● Active

Log Type: Service log

Service: Virtual Cloud Network - subnets

Log Category: Flow Logs - All records

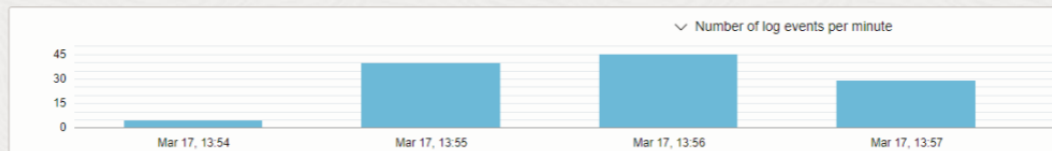
Resource: [public_subnet-lab1](#)

Sort

Newest

Filter by time

Past 5 minutes



2.7.1 Monitoring, Alarms, Notifications Via a Cloud Agent

Subscriptions

Subscription Details

S

ACTIVE

Email subscription on Demo_Asma top

Subscription Information

Tags

OCID: ...c6tc7y2ewa

Show

Copy

Compartment: h20laias (root)

Topic: Demo_Asma

Protocol: Email

Endpoint: h20asmhu@du.se

Delivery Policy: Retry Policy Type: exponential

Initial Failure Retry Delay in Minutes: 1

Alarm is enabled

Suppress alarm

Move Resource

Actions

CPU Usage

ok

SUMMARY

Alarm fires when the Max of CpuUtilization is greater than the threshold value of 50, with a trigger delay of a minute.

ALARM SEVERITY

Critical

ALARM BODY

High CPU Usage

ALARM DETAILS

Compartment:

h20laias (root)

OCID:

...fc77iaitya

Show

Copy

Namespace:

oci_computeagent

Resource group:

All resource groups

Metric:

CpuUtilization

Statistic:

max()

Interval:

1m

Aggregation:

None

Dimensions:

No dimensions

Last updated:

Mar 17, 2023, 13:28:36 UTC

Notifications:

Destination:

Notifications

Topic:

Demo_Asma

Notifications grouping:

Group notifications across metric streams

Message Format:

Formatted messages

Repeat notification:

Does not repeat

Suppression:

Not suppressed

TAGS

Defined tags (2)

Oracle-Tags.CreatedBy: default/h20laias@du.se

```
After this operation, 49.2 kB of additional disk space will be used.
Get:1 http://eu-amsterdam-1-ad-1.clouds.ports.ubuntu.com/ubuntu-ports bionic/universe arm64 stress arm64 1.0.4-2 [16.9 kB]
Fetched 16.9 kB in 0s (639 kB/s)
Selecting previously unselected package stress.
(Reading database ... 64012 files and directories currently installed.)
Preparing to unpack .../stress_1.0.4-2_arm64.deb ...
Unpacking stress (1.0.4-2) ...
Setting up stress (1.0.4-2) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
Processing triggers for install-info (6.5.0.dfsg.1-2) ...
ubuntu@instance-asma:~$ sudo stress --cpu 10 --timeout 90
stress: info: [16426] dispatching hogs: 10 cpu, 0 io, 0 vm, 0 hdd
stress: info: [16426] successful run completed in 90s
ubuntu@instance-asma:~$
```

Outlook

Sök

Om Hjälp

Ny e-post

Ta bort Arkiv Rapportera Rensa Flytta till Svara Svara alla Vidarebefordra Snabbtag Läst / Ölad Kategorisera Flagga/tb bort flagga Fäst/tb bort Snooz Visa inte princip

Webbkärlaren stöder att Outlook på webben är inställt som standardhant...

Favoriter

Mappar

Inkorg 505

Utkast 34

Skickat

Borttagna 1

Skrappost 4

Arkiv

Anteckningar 1

Konversations...

Skapa ny mapp

Grupper

Upptäck grup...

Hantera grup...

Inkorg

noreply@notification.eu-amsterd... CPU Usage 14:51 You don't often get email from nore...

noreply@notification.eu-amsterd... CPU Usage 14:47 You don't often get email from nore...

noreply@notification.eu-amsterd... Oracle Cloud Infrastructure N... 14:20 You don't often get email from nore...

Thomas Kvist - to@du.se GD2KB (VT23, 50%, Dag No... 08:59 Hej, vänligen notera att vaktmästerie...

I går

noreply@du.se Dagliga aviseringar för 23:05 Your updates Kursadministration och...

Hans Jones (HdA) Oracle Cloud Hej Asma! Du har två inläggning...

LinkedIn Learning Asma, explore these count... för 16:59 Check out these recommendations a...

postmaster@oracle.com Microsoft [External]: My account L... för 17:53 You don't often get email from post...

Oracle Cloud Oracle Cloud Access Details för 17:49 You don't often get email from

CPU Usage

Alarm Name: CPU Usage

Severity CRITICAL

Status FIRING

Body High CPU Usage

Time 2023-03-17T13:44:00Z

Query CpuUtilization[1m].max() > 50

Alarm OCID ocid1.alarm.oc1.eu-amsterdam-1.aaaaaaaawf5e3jnhuq25gde2zhvduw2mnd4e9ujs7c71aipa

Type OK_TO_FIRING

Number of metrics breaching threshold 1

Dimensions [{"InstancePoolId": "Default", "resourceDisplayName": "Instance-Asma", "faultDomain": "FAULT-DOMAIN-2", "resourceId": "ocid1.instance.oc1.eu-amsterdam-1.aqw2jrac0ct3yucgpnrb0c0adefwmgd0vnm3gdp0cpeum0", "availabilityDomain": "ps1a-1.eu-amsterdam-1-AD-1", "imageId": "ocid1.image.oc1.eu-amsterdam-1.aaaaaaaavov5m1nyh2a35bpc5v395aj0226j2u2z0p0e9u0a0a", "region": "eu-amsterdam-1", "shape": "VM.Standard.A1.Flex"}]

Desktop key b7dc486b-256c-4819-a725-c973ca453ba

View Alarm in Console