

# Installing OIC agent on OCI

Architecture, Integration

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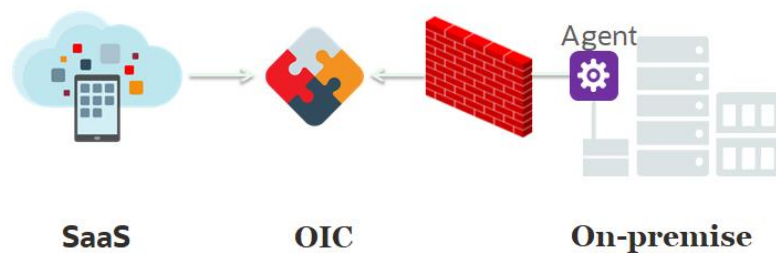
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## OIC connectivity to private OCI resources and installing OIC agent in OCI using Bastion Service

This Article should demonstrate how easy is to create and manage connectivity between the Oracle Integration Cloud and private resources in OCI or VPN to on-premise or different cloud resources.

Using the connectivity agent, you can create hybrid integrations and exchange messages between applications in private or on-premises networks and Oracle Integration.



OIC connectivity agent values:

- Enables secure integration with on-premises systems without firewall pin-holes
- Brokers all communications between both OIC UI Designer and Runtime and the on-premises systems
- No DMZ components required (however can cohabit with it)
- Only requires HTTPS (443) access to the outside world
- OIC will never reach into the customer's data center
- Communication is always initiated from on-premises upstream via the Agent
- Ground Agent dis-allows any explicit inbound connections. Connection always established to ORACLE cloud
- Uses JCA adapters and JCA framework to invoke on-premises application endpoints.

See more in [About Creating Hybrid Integrations Using Oracle Integration](#).

## OIC connectivity creation prerequisites

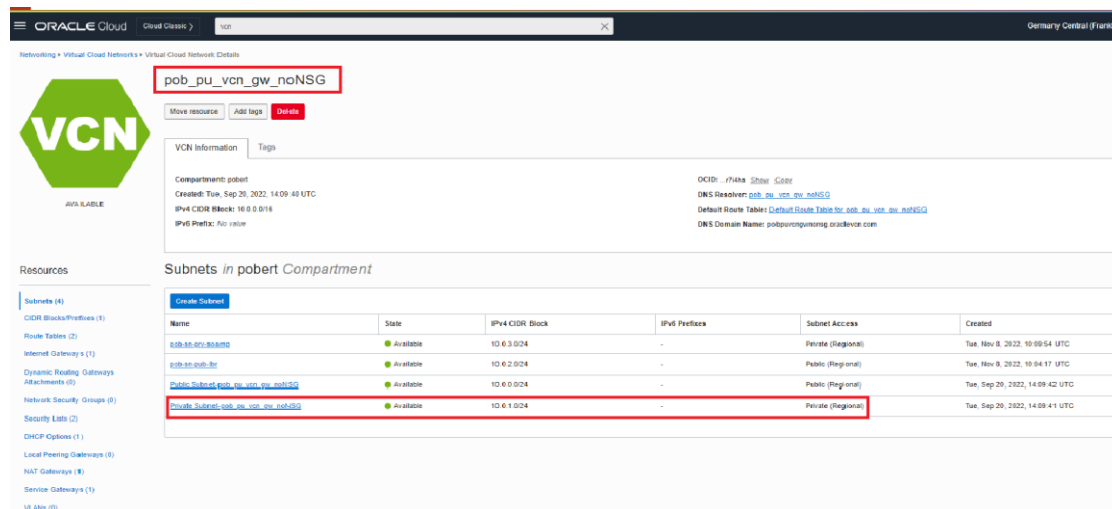
Infrastructure Architecture Design or minimally Deployment or Physical Architecture view is a must to have before starting.

Then it is easy for any OCI Administrator to understand what needs to be done.

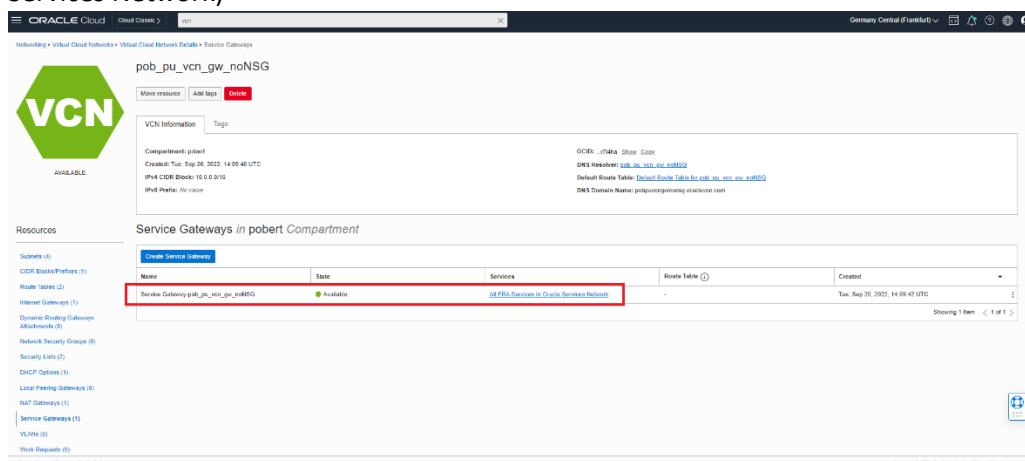
e.g. We have to establish connectivity to Oracle EBS in OCI – to EBS DB Staging Schemas.



- ✓ Prepare Virtual Cloud Network and Private Subnet for hosting OIC Connectivity Agent VMs



- ✓ Prepare Service Gateway which provides connectivity between VCN and all the OCI regional services in the Oracle Services Network (OIC as Cloud Native PaaS is provisioned to Oracle Services Network)



- the OIC Agents subnet is associated with the SSH Remote Login Protocol and

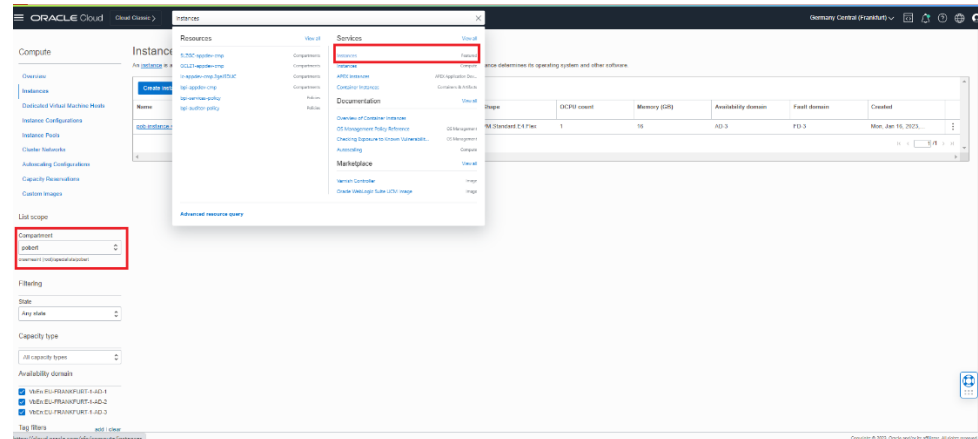
- [Classic >](#)

[>](#)

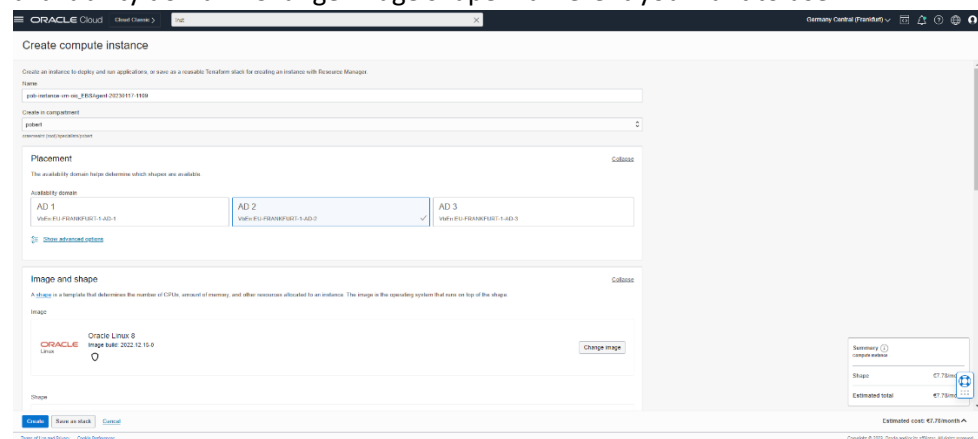
- Cloud Classic >

# OIC connectivity agent physical VM Instance provisioning using OCI Terraform Stack

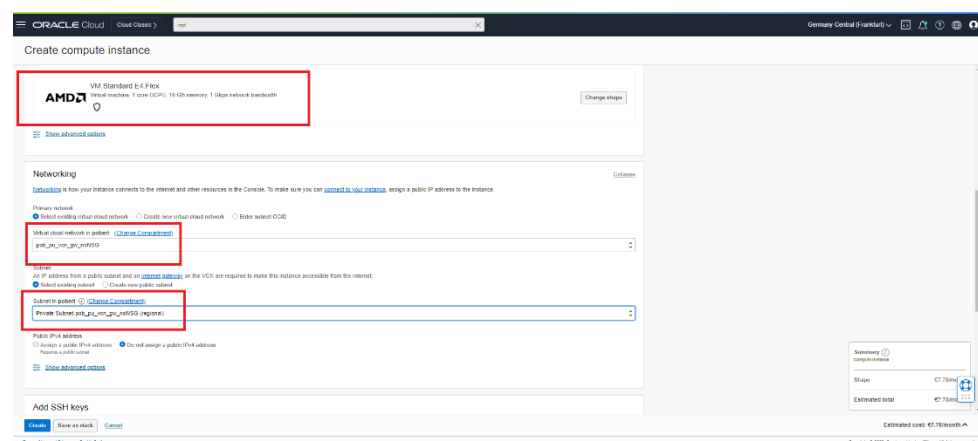
- Now we can provision new VM instance which will be dedicated to OIC connectivity Agent for EBS Connection. Chose Correct Compartment and jump into the OCI Instances Resource types.



- Create new Instance. Assign Name according to your organization naming Standards, chose availability domain. Change image shape if different you want to use.



- You can change/adjust shape but do not forget to check [minimum of 8 GB memory needed for the running Agent process](#). Provide VCN and Subnet.



- Download OCI generated or provide your own public and private key to access the instance in the future. If you want to automate this in the future, we recommend to click to Save as Stack button

**Create compute instance**

Generate an [SSH key](#) to connect to the instance using a Secure Shell (SSH) connection, or upload a public key that you already have.

**Add SSH keys**

Generate a key pair for me ☐ Upload public key files (path) ☐ Private public keys ☐ No SSH keys

Download the private key so that you can connect to the instance using SSH. It will not be shown again.

☒ Save private key ☒ Delete public key

**Boot volume**

A [boot volume](#) is a detachable device that contains the image used to boot the compute instance.

☐ Specify a custom boot volume size   
 [View subtenants](#) with volume size. Default boot volume size: 40 GB. When you specify a custom boot volume size, consider the following:

☐ Use a boot encryption key   
 [View subtenants](#) to boot between the instance, the boot volume, and the boot volume.

☐ Encrypt the volume with a key that you manage   
 By default, Oracle manages the keys that encrypt the volume, but you can choose a key from a vault that you have access to if you want greater control over the keys it manages and how to use it. [View the Oracle documentation](#)

**Create** **Save as stack** **Cancel**

Summary   
 Compute instance   
 Shape: E7.75mm   
 Estimated total: \$7.75/month

- Now you can create the instance or create and run Terraform stack that in the future you are able to repeat the process easily in different environment/compartments. Click next.

**Create stack**

Stack origin: Compute instance "pub-instance-vm-oci\_ESSAgent\_20230117\_1109"

Working directory: You must enter a valid path on the working directory.

**Custom providers**

☐ Use custom Terraform providers   
 [View custom Terraform providers in a vault](#)

Name: Optional   
 pub-instance-vm-oci\_ESSAgent\_20230117\_1109

Description: Optional

Create in compartment:   
 project

Terraform version:   
 1.0.x

**Tags**

Add tags to organize your resources. [What can I do with tags?](#)

Tag namespace:   
 Name (and a free-form tag): Tag value

**Create** **Cancel**

- Run and Apply the stack. Click Create.

**Create stack**

Verify your configuration variables, and then create your stack. Due to limited space, we show only variables without default values or that you edited.

**Stack information**

Name: pub-instance-vm-oci\_ESSAgent\_20230117\_1109

Description:

Compartment:   
 bmg1-77h3p3-2h3p3-2h3p3

Terraform version: 1.0.x

No variable values added or changed.

**Run apply on the created stack?**

Immediately provision the resources defined in the Terraform configuration by running the apply action on the new stack.

☒ Run apply

**Previous** **Create** **Cancel**

- Now Terraform stack is running



ORACLE Cloud Cloud Classic > VM

Resource Manager > Stacks > Stack details > Job details

**RMJ** ACCEPTED

ormjob20230117101552

While this job is running, only partial logs are available. You can get a complete log when the job is finished.

Download Termination configuration Add tags Cancel job

Job Information Tags

OCID: i-8mgm-28ae-28ae  
Job type: Apply  
State: Accepted  
Start time: Tue, Jan 17, 2023, 10:15:52 UTC  
Upgrade provider version: No

Compartment: ocmwasm (/oci/specialistsubst)  
Plan job ID: Automatically approved  
Working directory: Not specified  
End time: N/A

Resources

Logs

Download logs Show time range

ssh-key-2023-01-...pub ssh-key-2023-01-17-key

Show all

- After successful or failed job execution you can still download provisioning logs.

ORACLE Cloud Cloud Classic > VM

Resource Manager > Stacks > Stack details > Job details

**RMJ** SUCCEEDED

ormjob20230117101552

Edit job Download Termination configuration Download Termination state Add tags

Job Information Tags

OCID: i-8mgm-28ae-28ae  
Job type: Apply  
State: Succeeded  
Start time: Tue, Jan 17, 2023, 10:15:52 UTC  
Upgrade provider version: No

Compartment: ocmwasm (/oci/specialistsubst)  
Plan job ID: Automatically approved  
Working directory: Not specified  
End time: Tue, Jan 17, 2023, 10:16:43 UTC

Resources

Logs

Download logs Show time range

Setting providers from workspace registry under custom Termination providers  
Installing provider plugins...  
Fetching latest version of ansible-core...  
Installing ansible-core on ansible...  
Installing ansible-core on ansible...  
Termination has been successfully initialized!  
You may now begin working with Termination. Try running "terraform apply" to see the progress that our providers for your Termination. All resources created should be ready.  
If you ever get an error message or demand configuration for Termination, never this command to facilitate your working directory. If you forget, other commands will detect it and remind you to do so if necessary.

ssh-key-2023-01-...pub ssh-key-2023-01-17-key

Show all

- You can always find the stack in the compartment you provisioned the instance and Edit it or export using Code Editor

ORACLE Cloud Cloud Classic > VM

Resource Manager > Stacks > Stack details

**RMS** ACTIVE

pob-instance-vm-oc-EBSSAgent-20230117-1109

Edit stack Plan Apply Upgrade More actions

Edit Termination configuration in code editor

Description:  
OCID: i-8mgm-28ae-28ae  
Created: Tue, Jan 17, 2023, 11:15:51 UTC  
Time of drift detection (last run): Not checked

Compartment: ocmwasm (/oci/specialistsubst)  
Termination configuration: Local Quotient  
Termination version: 1.0  
Status of drift detection (last run): Not checked

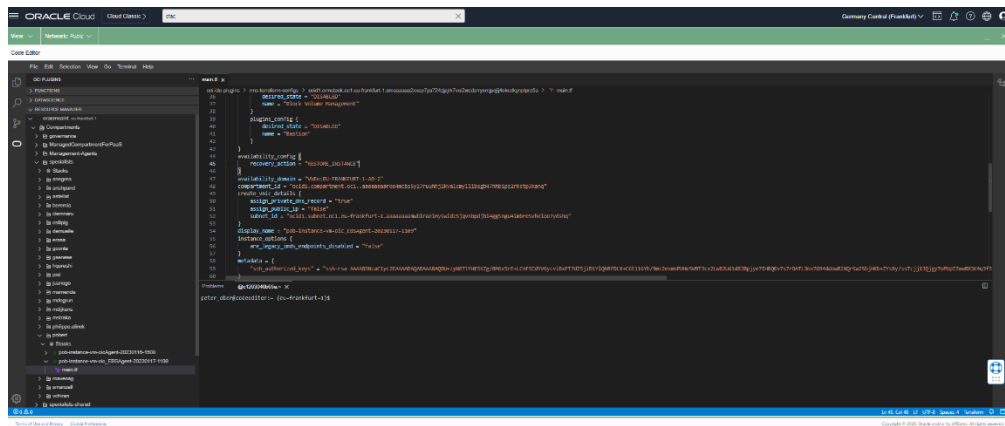
Resources

Jobs

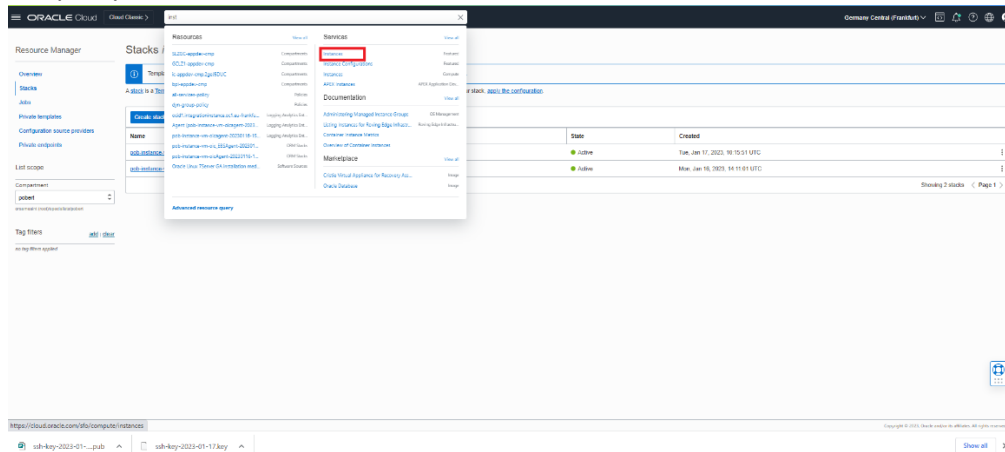
A job is created when you run a Termination action on a stack. Use these Termination actions to plan, upgrade, and destroy your OCI resources according to your configuration. You can also import state files.

Name	Type	Status	Start time	End time	State file
ormjob20230117101552	Apply	Succeeded	Tue, Jan 17, 2023, 10:15:52 UTC	Tue, Jan 17, 2023, 10:16:43 UTC	<a href="#">View state</a>

Showing 1 jobs (Page 1)

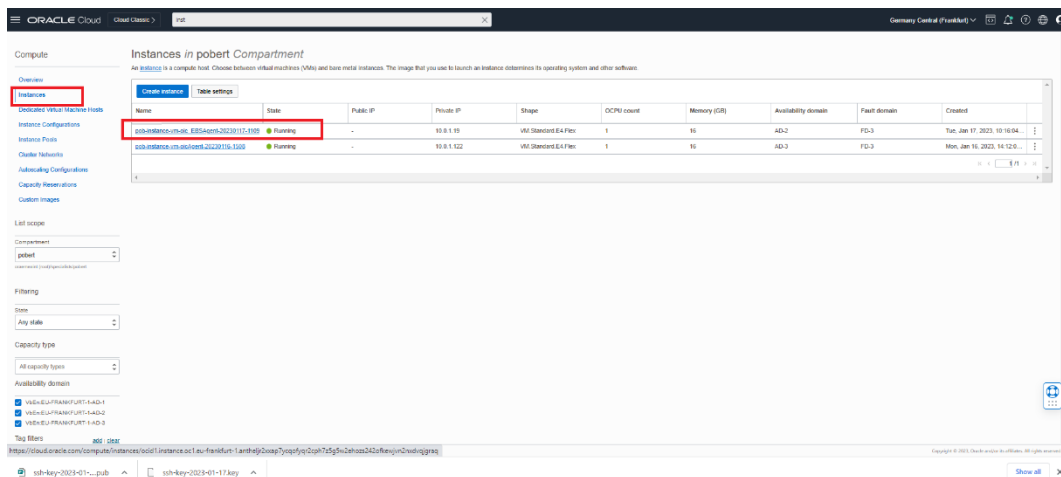


- Jump to your instances

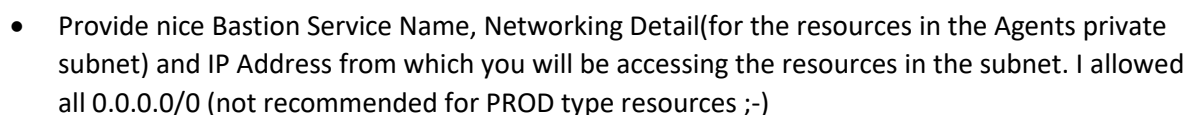
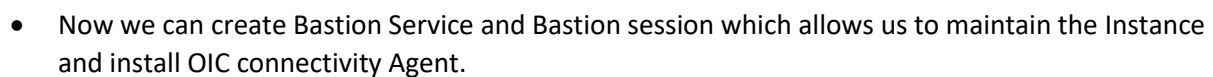
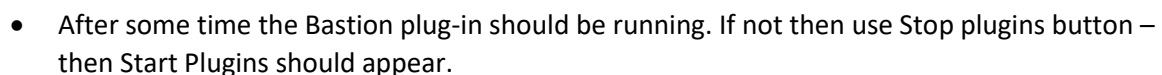


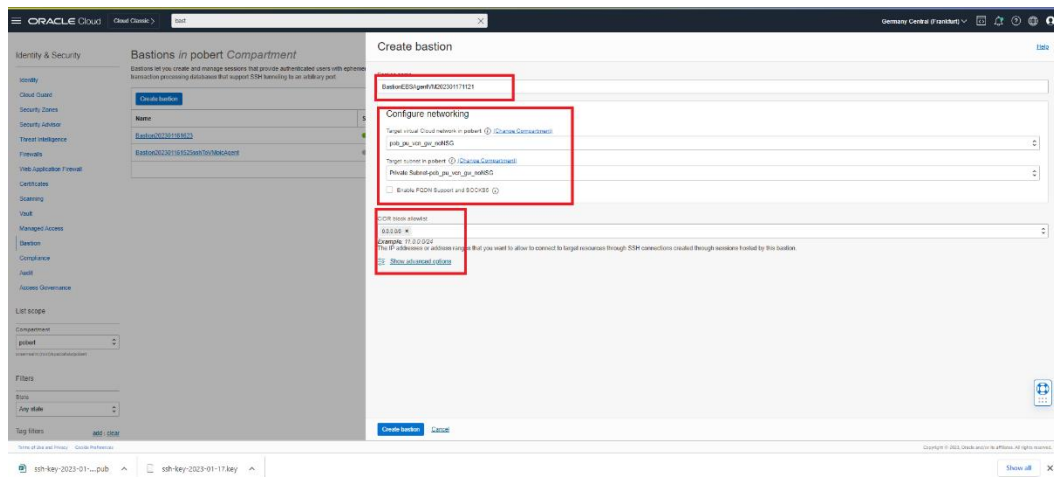
## OIC connectivity agent VM Instance configuration and Agent Installation using Bastion Service

Our VM which will host OIC Connectivity Agent is running.

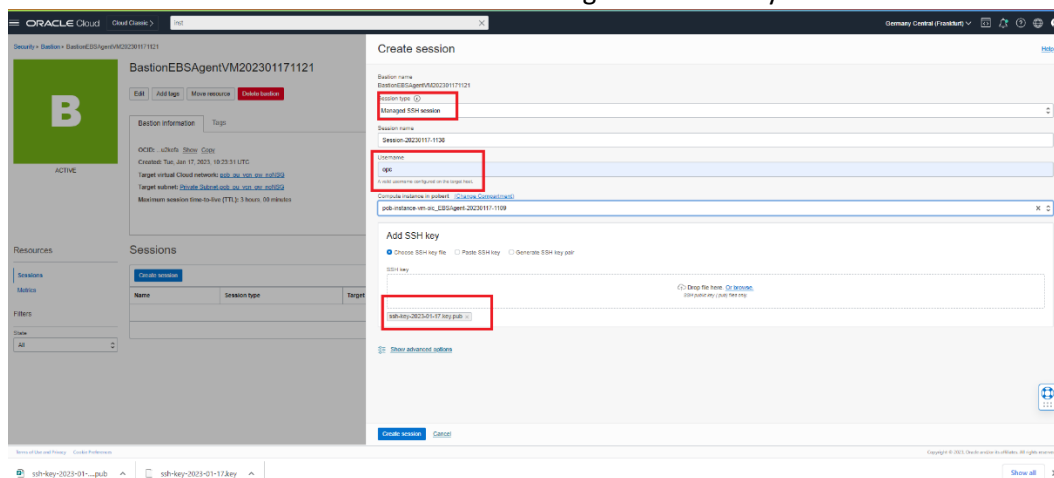


- By Default, Bastion plug-in is disabled on the VM during the provisioning. We could change it in the terraform stack in the editor or we can enable it manually or using OCI REST API or Cloud Shell CLI. Click to Enable.

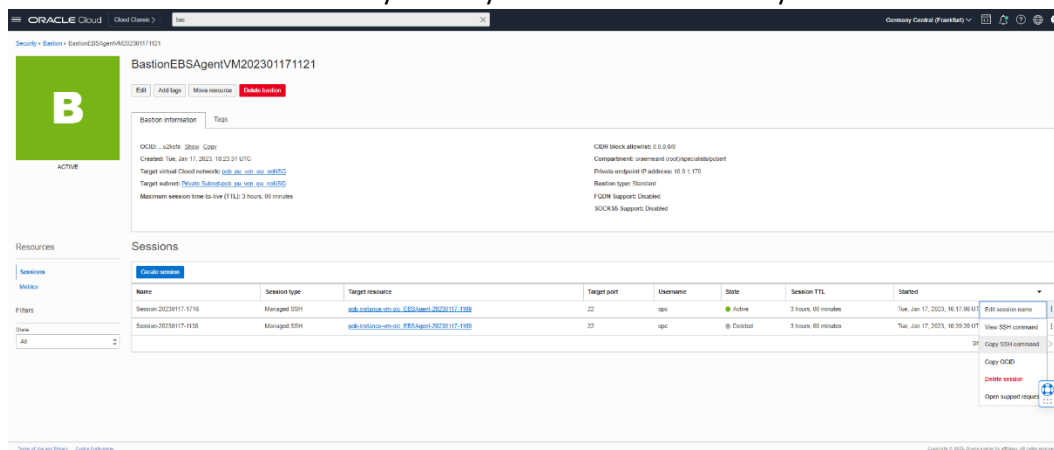




- Now we can create Bastion SSH session to manage the VM easily



- When the Bastion SSH Session is active then Copy SSH Command and store it into some file – the best some notes in the directory where you stored the Server keys.



Add your private key file name into the command – you should have now something like that:

```
ssh -i ymebsagent-ssh-key-2023-01-17.key -o ProxyCommand="ssh -i ymebsagent-ssh-key-2023-01-17.key -W %h:%p -p 22 ocid1.bastionsession.oc1.eu-frankfurt-1.amaaaaaa2xxap7yavfza64wmp4olts3ed3zulc2pnb4yyewtd5jrsqj32q@host.bastion.eu-frankfurt-1.oci.oraclecloud.com" -p 22 opc@10.0.1.19
```

- Open your Power Shell if you are using Windows. On MacOS or Linux you can start Terminal window. Change working directory to the local directory where you stored server keys and you will put OIC connectivity Agent Artifacts. Do not use any public or shared windows folder like „Downloads“.  
In my case it was

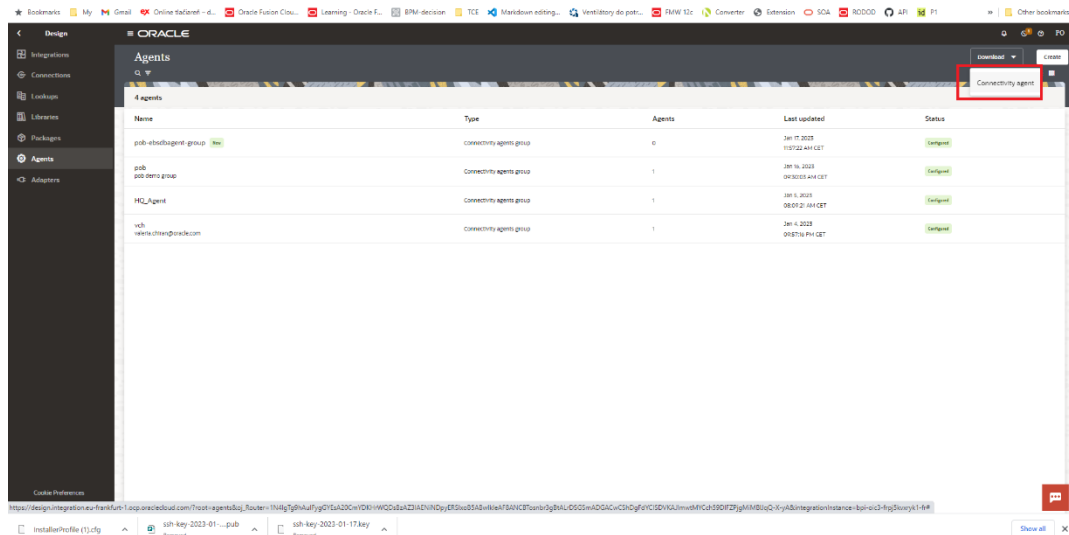
```
➤ cd 'c:\xxxxxx\67--HybridAndAgents\01-demoEBSAg\'
PS C:\Users\POBERT\Documents\Oracle Content\01-TCE\67--HybridAndAgents\01-demoEBSAg> cd 'c:\Users\POBERT\Documents\Oracle Content\01-TCE\67--HybridAndAgents\01-demoEBSAg\'
PS C:\Users\POBERT\Documents\Oracle Content\01-TCE\67--HybridAndAgents\01-demoEBSAg>
```

- SSH session command should work:

```
opc@pop-instance-vm-oc1-ebagent-20230117-1109 ~$
PS C:\Users\POBERT\Documents\Oracle Content\01-TCE\67--HybridAndAgents\01-demoEBSAg> cd 'c:\Users\POBERT\Documents\Oracle Content\01-TCE\67--HybridAndAgents\01-demoEBSAg\'
PS C:\Users\POBERT\Documents\Oracle Content\01-TCE\67--HybridAndAgents\01-demoEBSAg> ssh -i vmbsagent-ssh-key-2023-01-17.key -o ProxyCommand="ssh -i vmbsagent-ssh-key-2023-01-17.key -W %h:%p -p 22 ocid1.bastionsession.oc1.eu-frankfurt-1.amaaaaaa2xxap7yavfza64wmp4olts3ed3zulc2pnb4yyewtd5jirsqcj32q@host.bastion.eu-frankfurt-1.oc1.oraclecloud.com" -p 22 opc@10.0.1.19
The authenticity of host '10.0.1.19 (no hostip for proxy command)' can't be established.
ECDSA key fingerprint is SHA256:2rxlu3njoPjw52mywaWb5v5tqa21Bj8GE8qjd0FE.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '10.0.1.19' (ECDSA) to the list of known hosts.
Activate the web console with: systemctl enable --now cockpit.socket
[opc@pop-instance-vm-oc1-ebagent-20230117-1109 ~]$
```

- Create directory e.g. *oc1-agent* as directory you will use for dropping OIC Connectivity Agent installation files and configuration. Prepare sftp command from the ssh command. You should have something like that:  
`sftp -i vmbsagent-ssh-key-2023-01-17.key -o ProxyCommand="ssh -i vmbsagent-ssh-key-2023-01-17.key -W %h:%p -p 22 ocid1.bastionsession.oc1.eu-frankfurt-1.amaaaaaa2xxap7yavfza64wmp4olts3ed3zulc2pnb4yyewtd5jirsqcj32q@host.bastion.eu-frankfurt-1.oc1.oraclecloud.com" opc@10.0.1.19`





- Transfer the artifacts using sftp commands into the VM instance and *oic-agent* folder

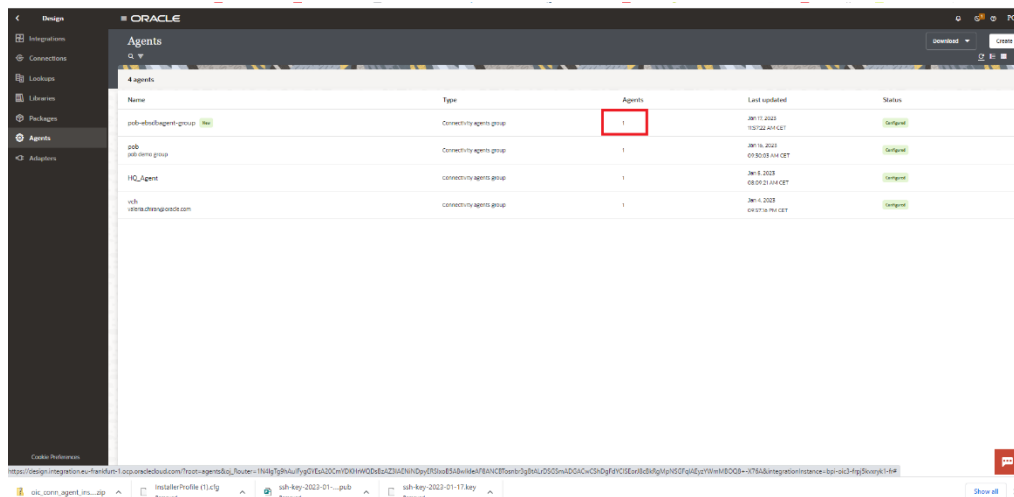
```

PS C:\Users\POBERT> cd "C:\Users\POBERT\Documents\Oracle Content\01-TCF67-HybridMedAgents\01-demo\B04g"
PS C:\Users\POBERT\Documents\Oracle Content\01-TCF67-HybridMedAgents\01-demo\B04g> sftp -i vmebsagent-ssh-key-2023-01-17-key -o ProxyCommand="ssh -i vmebsagent-ssh-key-2023-01-17-key -W %h:%p -p 22 ocid1.bastion@10.0.1.19"
Connected to 10.0.1.19.
sftp> ls
oic-agent
sftp> cd oic-agent
sftp> pwd
Remote working directory: /home/opc/oic-agent
sftp> put oic*.zip
Uploading oic_conn_agent_installer.zip to /home/opc/oic-agent/oic_conn_agent_installer.zip
oic_conn_agent_installer.zip
sftp> put inst*.cfg
Uploading InstallerProfile.cfg to /home/opc/oic-agent/InstallerProfile.cfg
InstallerProfile.cfg
sftp> ls -l
-rw-rw-r-- 1 opc   opc       723 Jan 17 11:03 InstallerProfile.cfg
-rw-rw-r-- 1 opc   opc    196294265 Jan 17 11:02 oic_conn_agent_installer.zip
sftp>
  
```

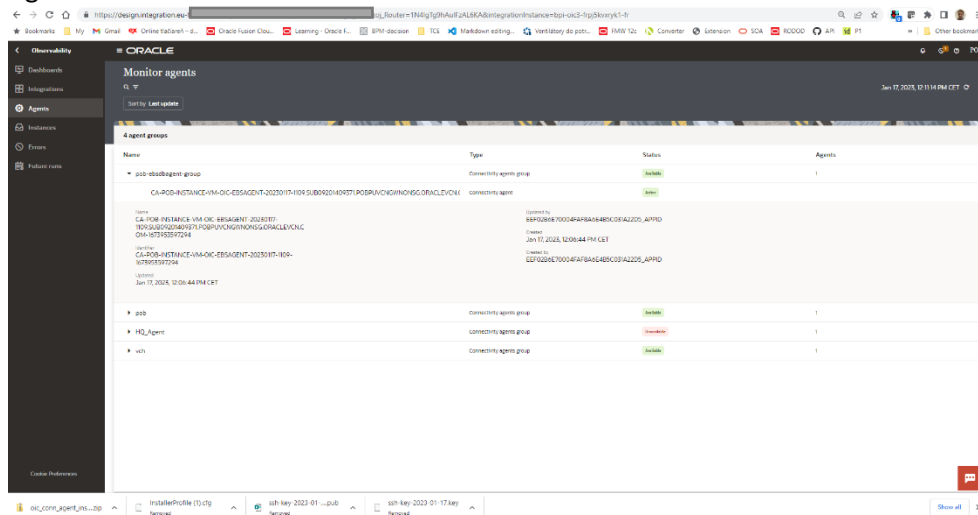
- Exit from SFTP and run again SSH command as before when creating the folder
  - unzip the installer zip archive – not extracting InstallerProfile.cfg. Or unzipping in additional temporary folder and replace empty InstallerProfile.cfg with the one downloaded from the OIC Agent Group menu.



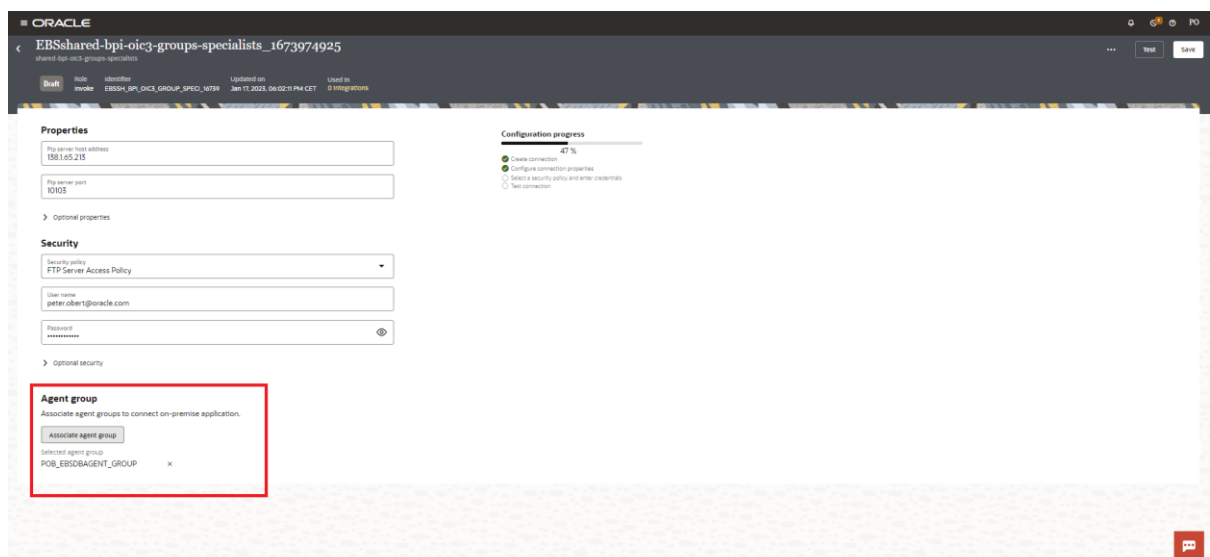





- Agent health can be monitored for its health through OIC menu – Home -> Observability -> Agents



- Now we can define Integration connection to EBS using connectivity agent through Associated Agent Group



## Learn More

To learn more about Oracle Integration Cloud visit [Application-Integration](#) .

- [Bastion Service](#)
- [OIC Connectivity Agent](#)
- [OCI Networking](#)
- [OCI Compute Concepts](#)

I recommend to follow Oracle A-Team [Chronicles](#) and Niall Commiskey - Integration Product Director [blogs](#).

Credits: [Niall Commiskey](#) [Valeria Chiran](#)

**#integration #EiPaaS #oraclecloud #oracleIntegration #OCI #** 