Installing OIC agent on OCI

Architecture, Integration

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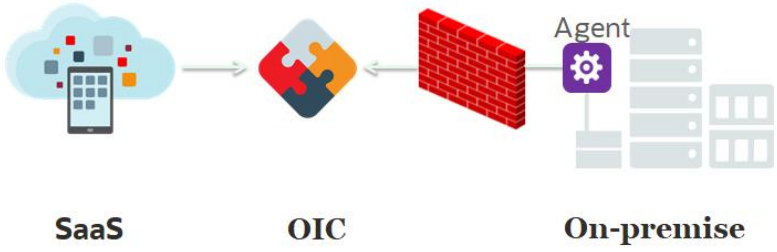
Contents

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.

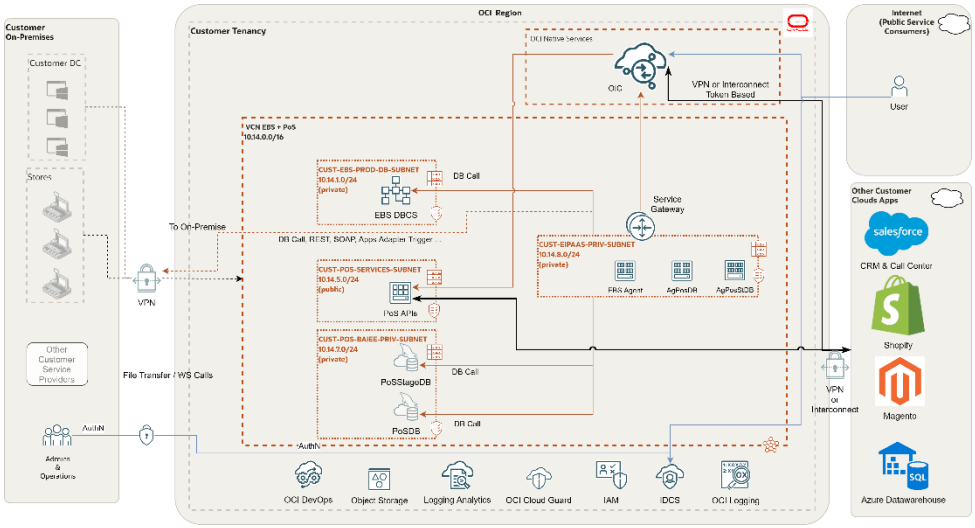
See more in About Creating Hybrid Integrations Using Oracle Integration.

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.



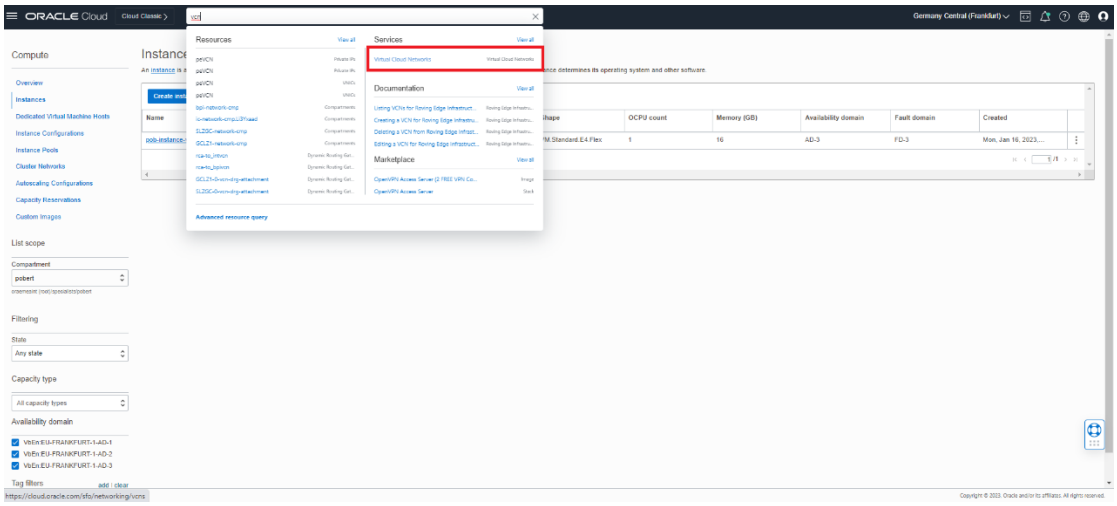
OIC connectivity to OIC private resources creation - HL Steps

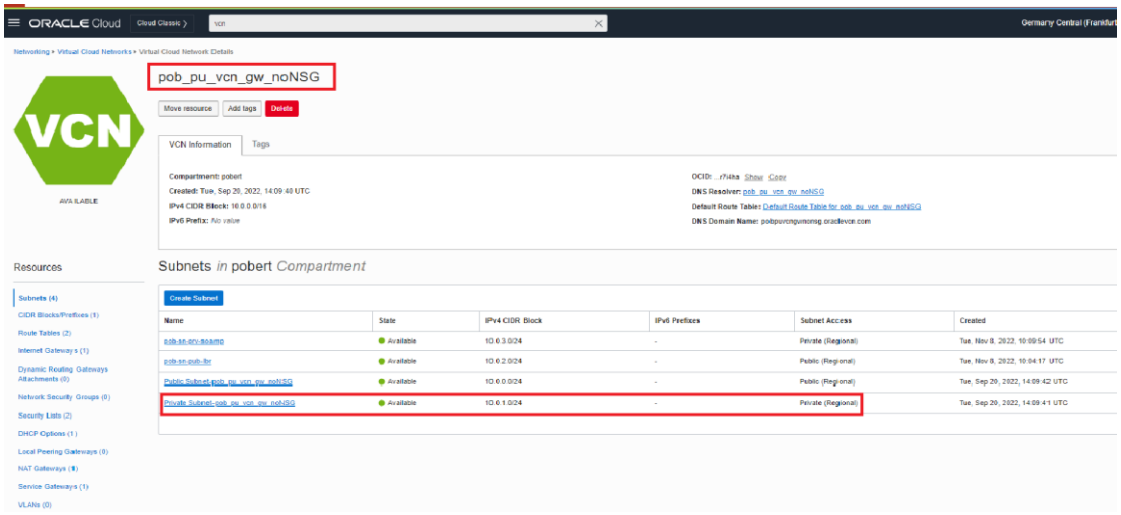
In Our example we will place new VM instance and install OIC Agent into the *Private Subnet-pob_pu_vcn_gw_noNSG*

1. OCI Foundation Provisioning (VCN, Subnets, Service GW, Security List, Routing Tables, VM Instances)
2. Set-up Networking (Bastion Service, Ingres/Egress rules, VM Instance Plug-ins)
3. Create Agent Group (OIC placeholder for Agent Registration)
4. Download OIC Installer
5. Download Configuration
6. Install OIC Connectivity Agent
7. Run OIC Connectivity Agent
8. Verify Agent Registered
9. Use Agent Group in OIC Connection

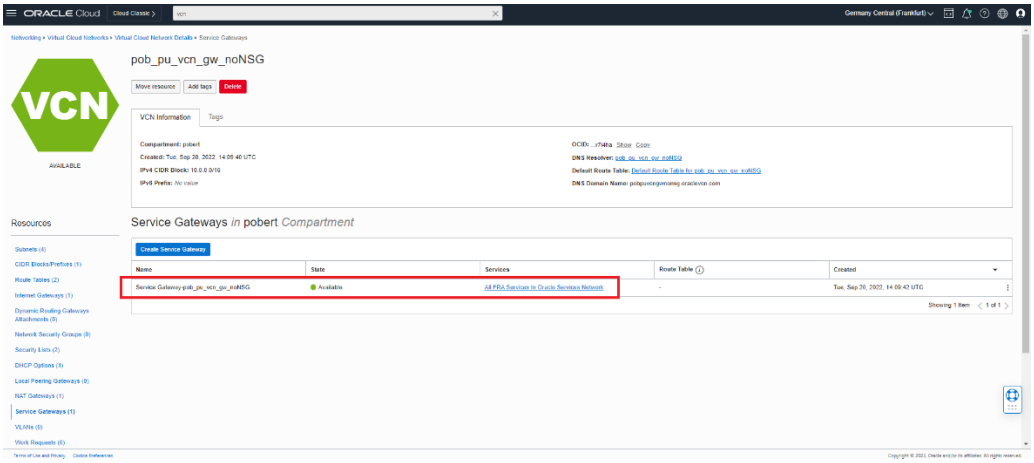
OIC connectivity to OIC private resources creation – Detailed OCI Prerequisites

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

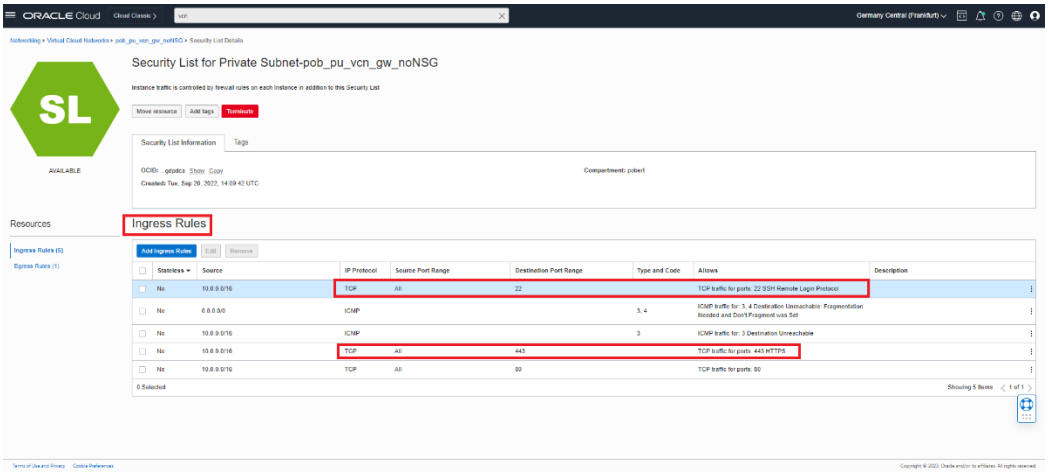




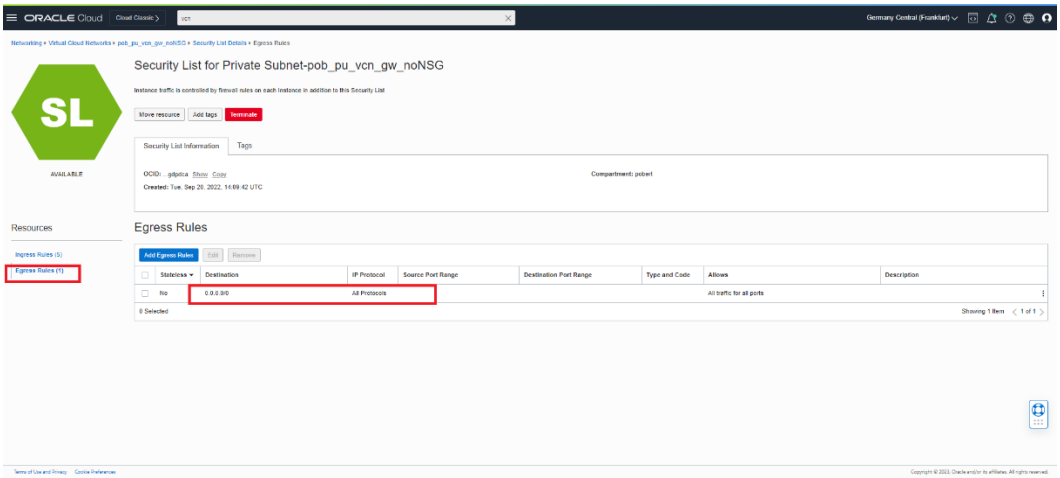
- ✓ Prepare Service Gateway which provides connectivity between VCN and all the OCI regional services in the Oracle Services Network (OIC as Cloud Native PaaS is provisioned to Oracle Services Network)



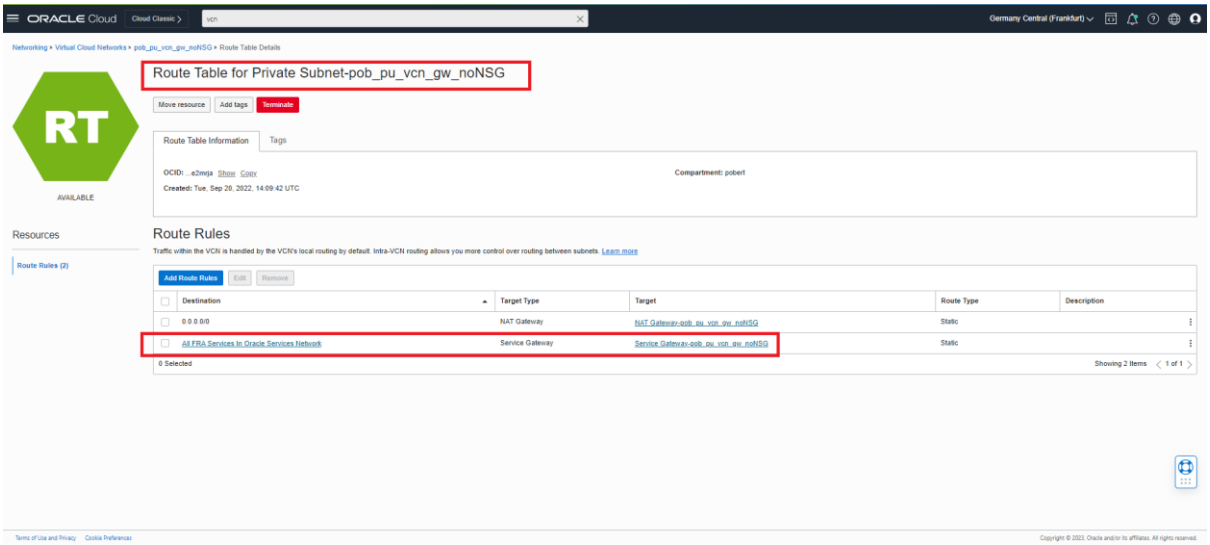
✓ Ensure that OIC Agents subnet is associated with the security List which contains Ingress rules for the SSH Remote Login Protocol and HTTPs protocol.



✓ Ensure that OIC Agents subnet is associated with the security List which contains Egress rules to communicate with outside world from subnet. In our case we enabled traffic to all possible destinations

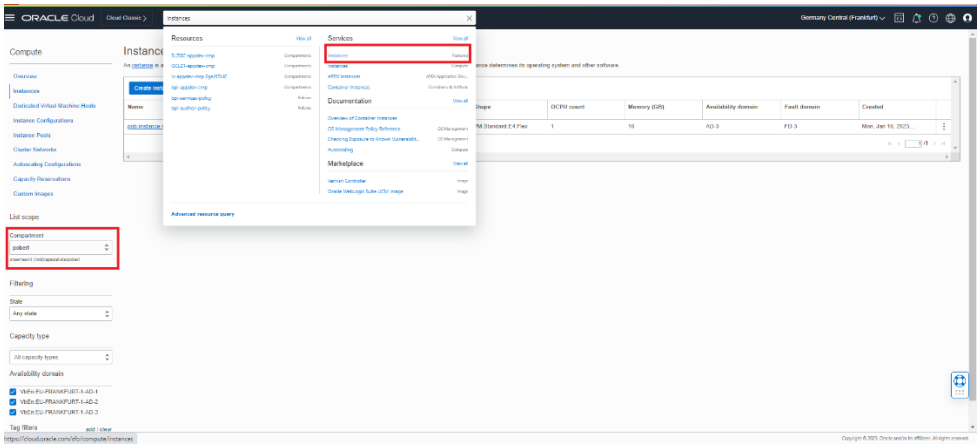


✓ Ensure that routing between OIC Agents subnet and OCI Services Network is enabled

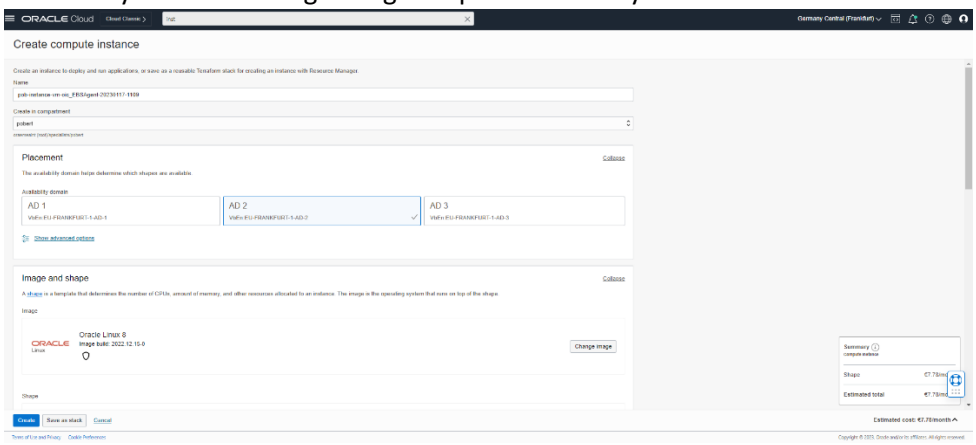


OIC connectivity agent physical VM Instance provisioning using OCI Terraform Stack

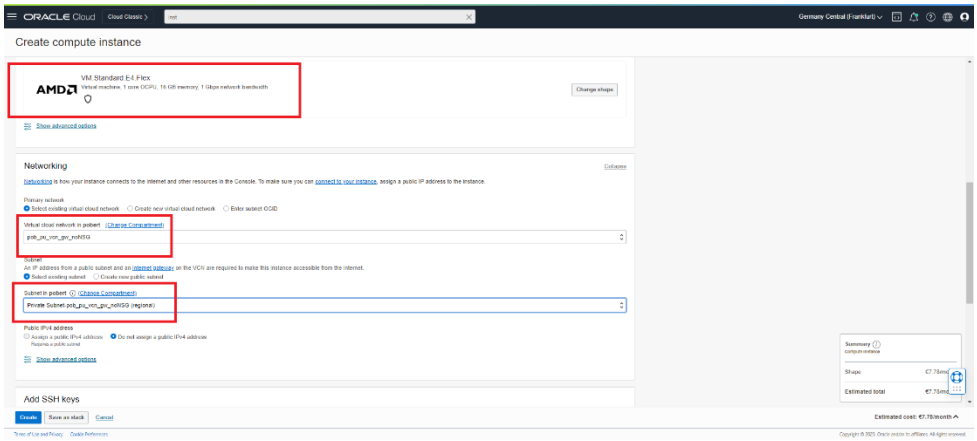
- Now we can provision new VM instance which will be dedicated to OIC connectivity Agent for EBS Connection. Chose Correct Compartment and jump into the OCI Instances Resource types.



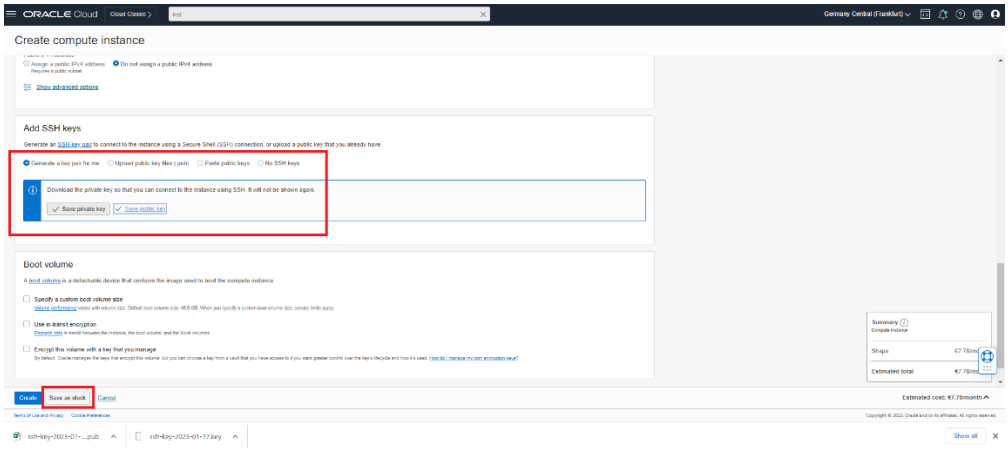
- Create new Instance. Assign Name according to your organization naming Standards, chose availability domain. Change image shape if different you want to use.



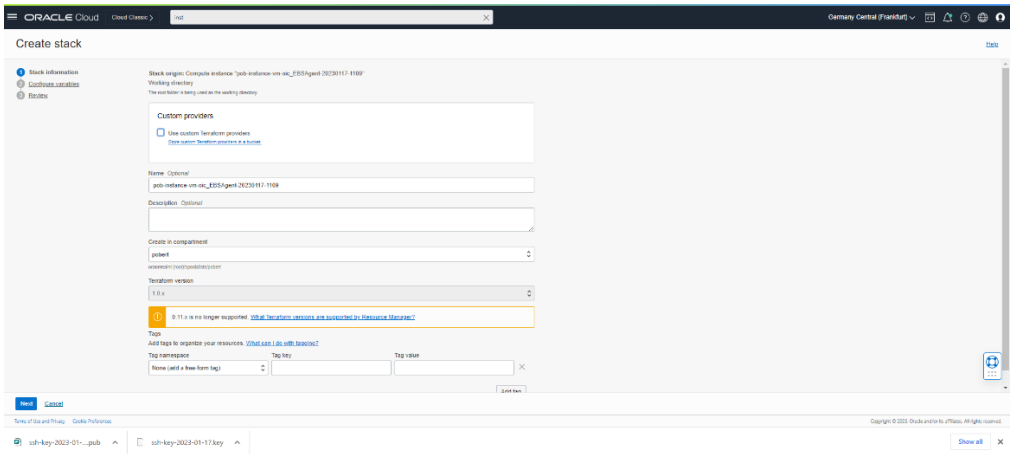
- You can change/adjust shape but do not forget to check [minimum of 8 GB memory needed for the running Agent process]. Provide VCN and Subnet.



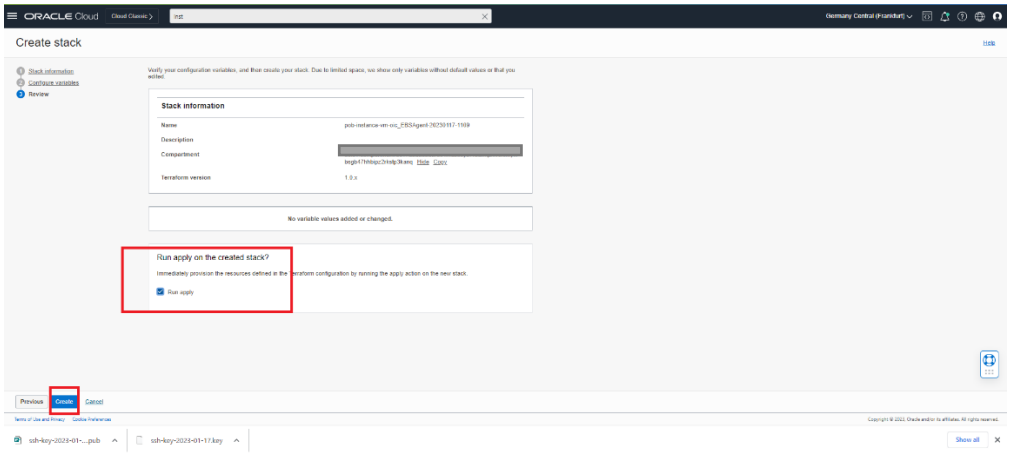
- Download OCI generated or provide your own public and private key to access the instance in the future. If you want to automate this in the future, we recommend to click to Save as Stack button



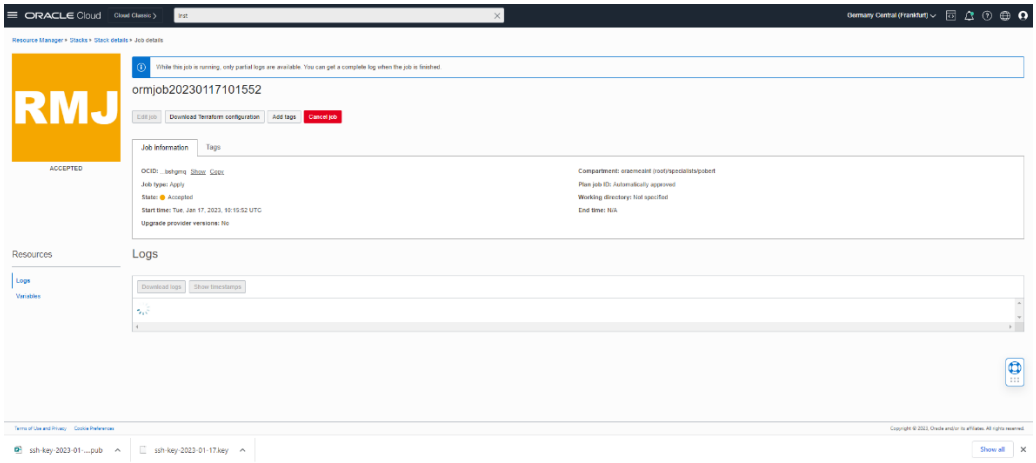
- Now you can create the instance or create and run Terraform stack that in the future you are able to repeat the process easily in different environment/compartment. Click next.



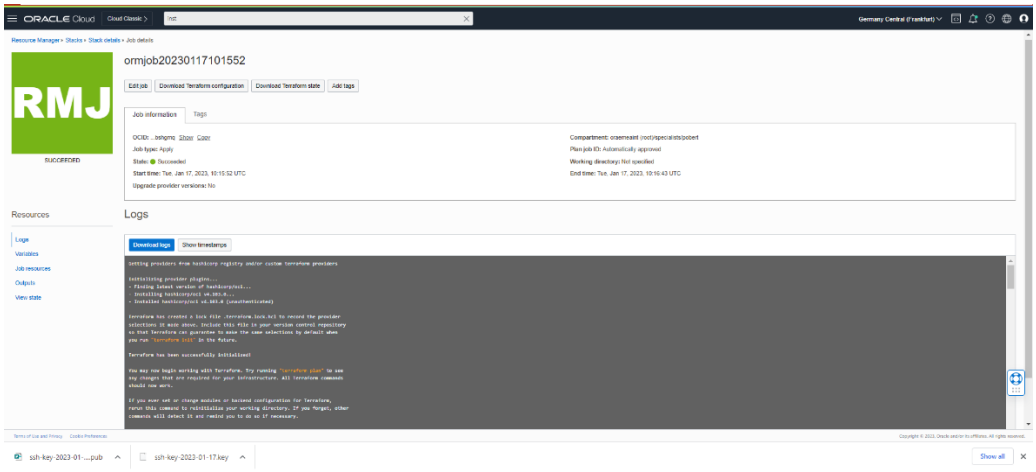
- Run and Apply the stack. Click Create.



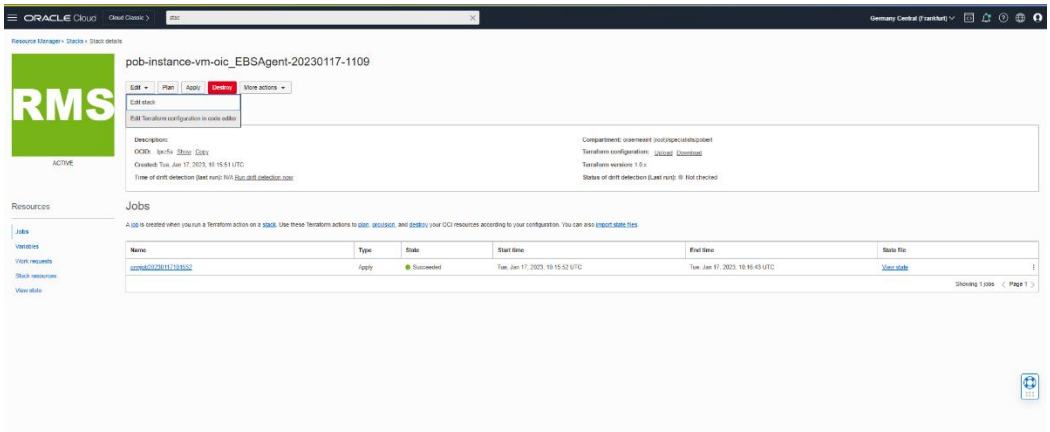
- Now Terraform stack is running

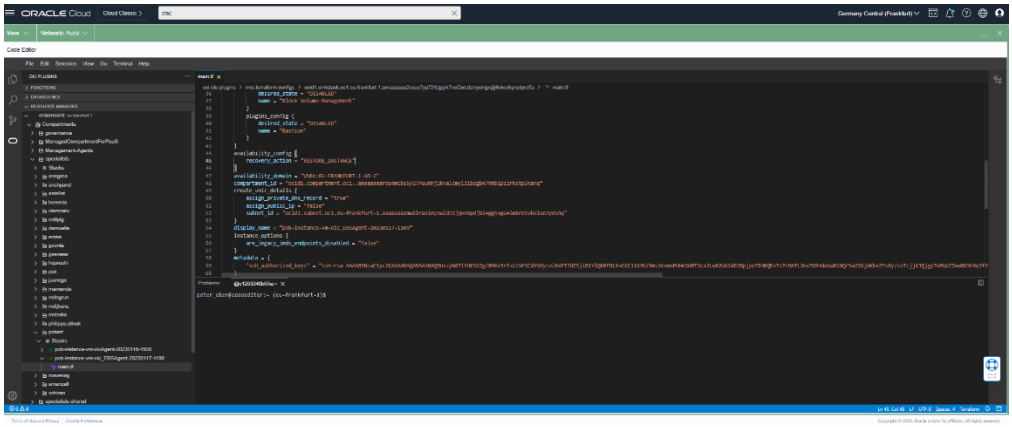


- After successful or failed job execution you can still download provisioning logs.

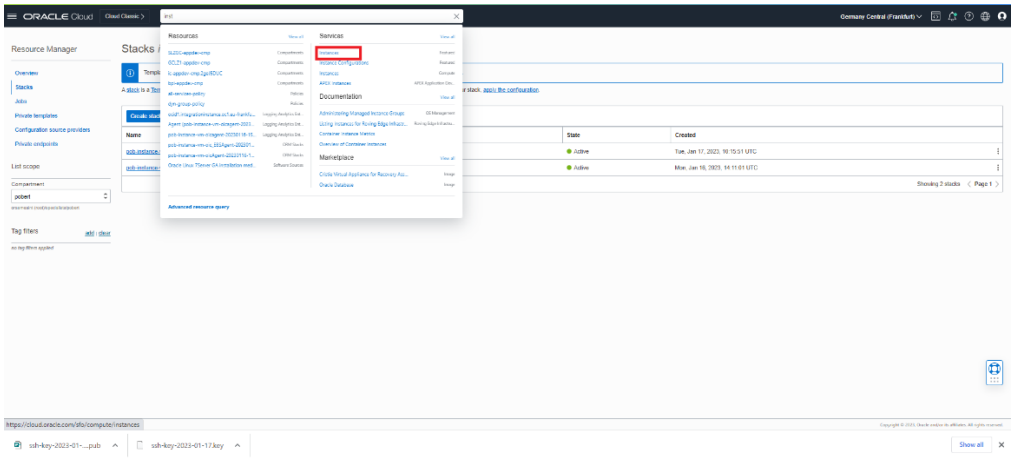


- You can always find the stack in the compartment you provisioned the instance and Edit it or export using Code Editor



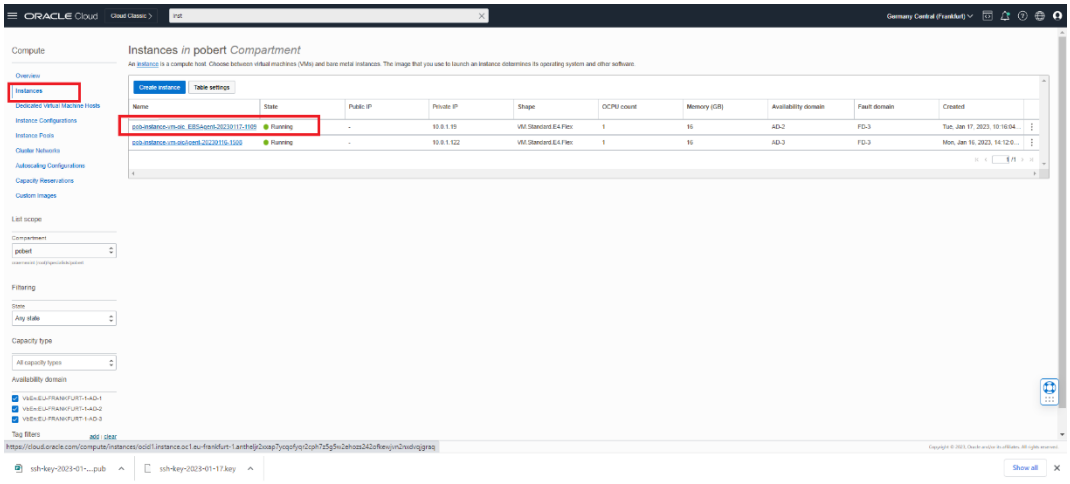


- Jump to your instances

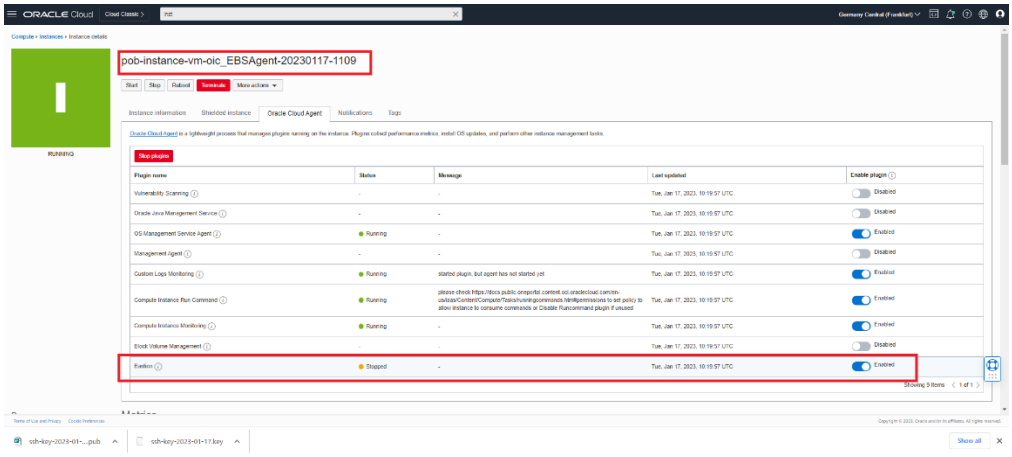


OIC connectivity agent VM Instance configuration and Agent Installation using Bastion Service

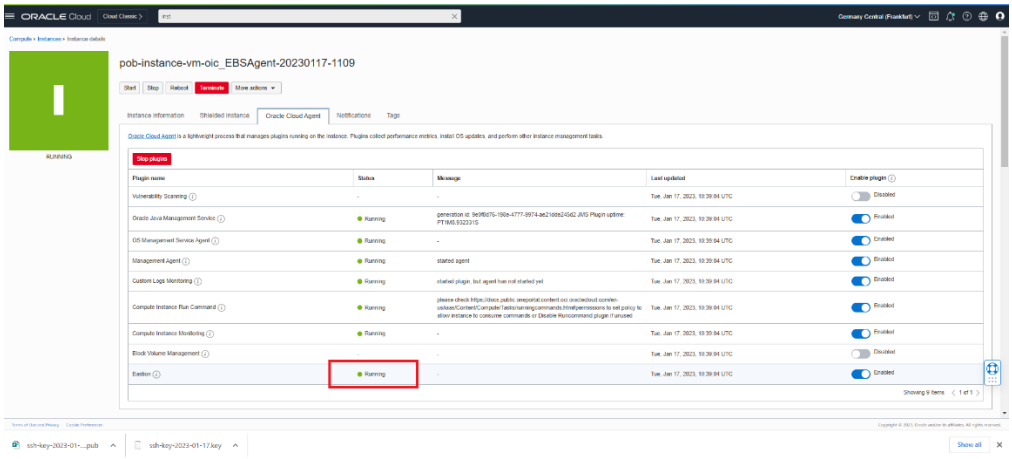
Our VM which will host OIC Connectivity Agent is running.



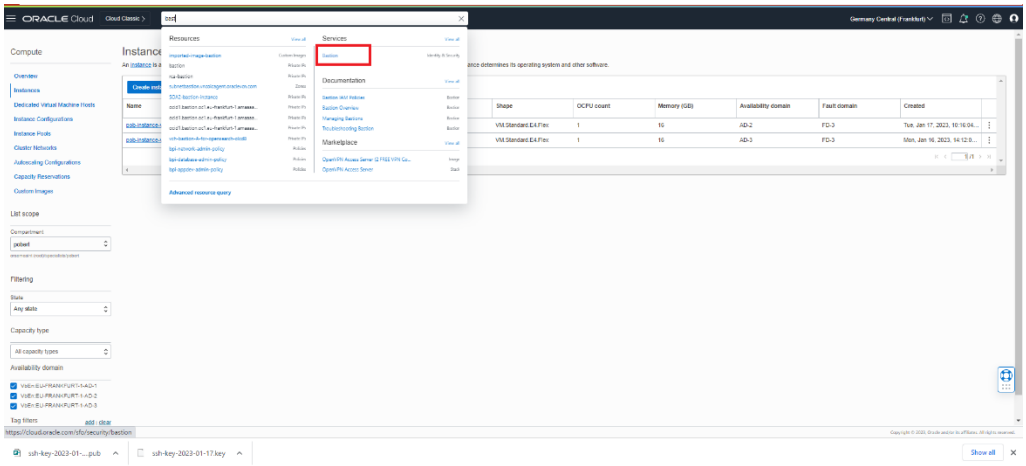
- By Default, Bastion plug-in is disabled on the VM during the provisioning. We could change it in the terraform stack in the editor or we can enable it manually or using OCI REST API or Cloud Shell CLI. Click to Enable.



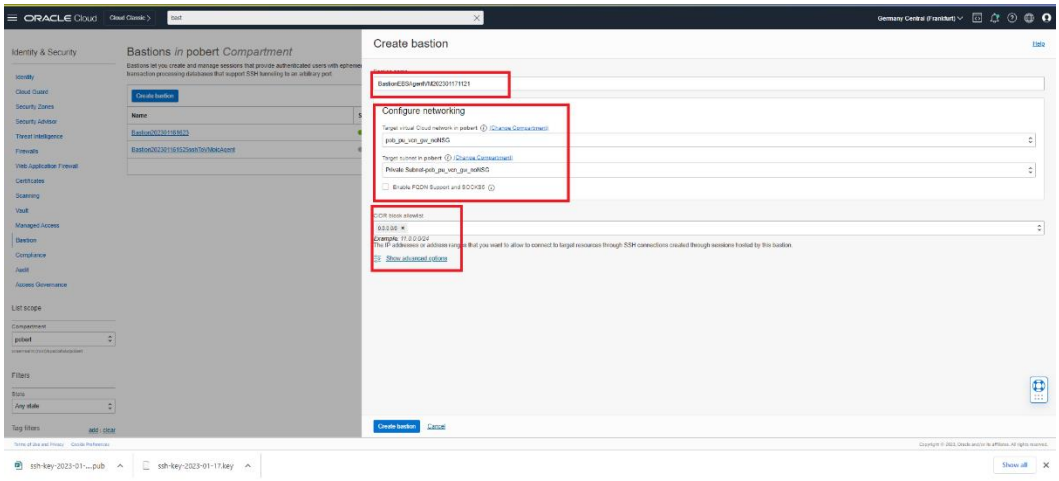
- After some time the Bastion plug-in should be running. If not then use Stop plugins button – then Start Plugins should appear.



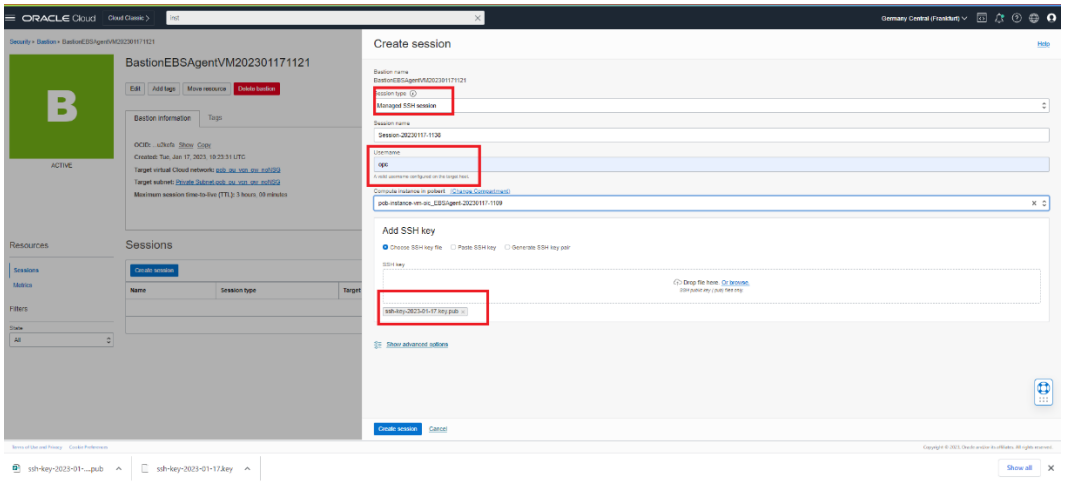
- Now we can create Bastion Service and Bastion session which allows us to maintain the Instance and install OIC connectivity Agent.



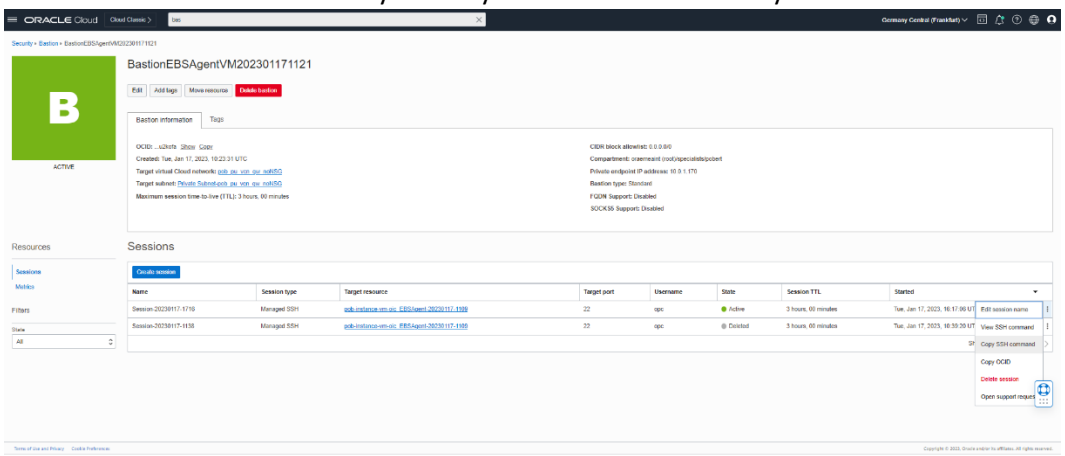
- Provide nice Bastion Service Name, Networking Detail(for the resources in the Agents private subnet) and IP Address from which you will be accessing the resources in the subnet. I allowed all 0.0.0.0/0 (not recommended for PROD type resources ;-)



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



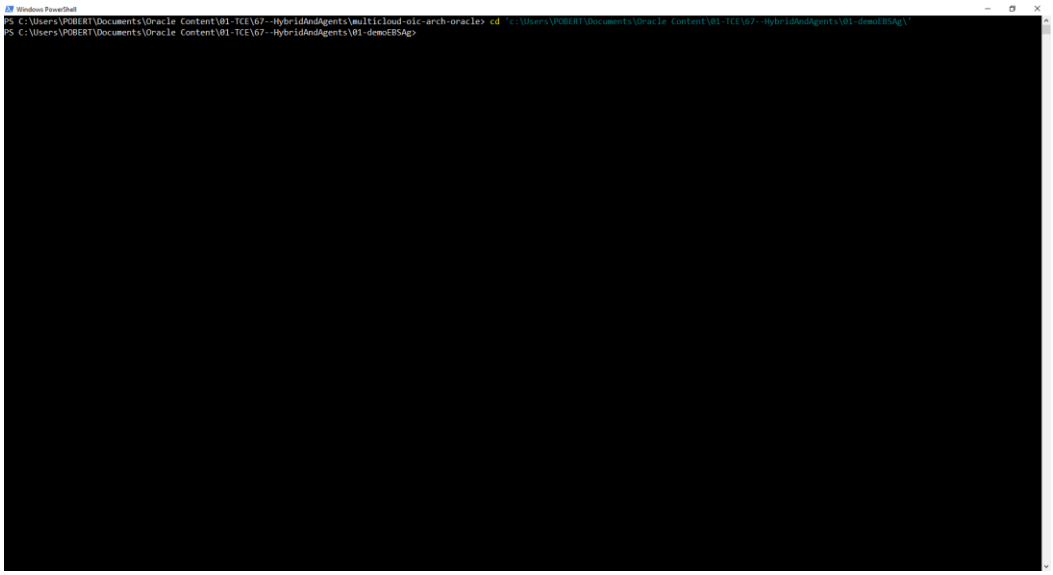
- When the Bastion SSH Session is active then Copy SSH Command and store it into some file – the best some notes in the directory where you stored the Server keys.



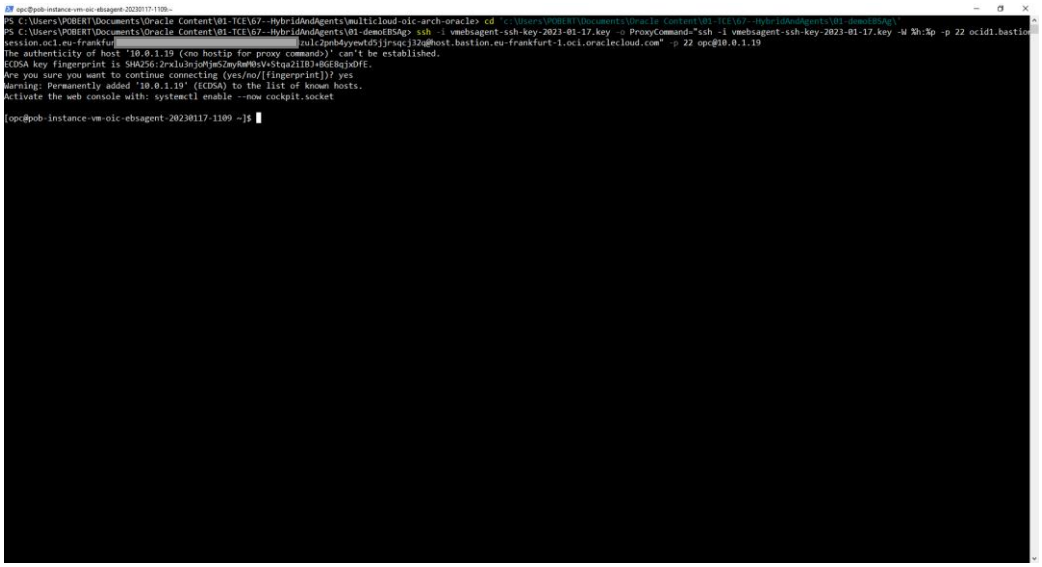
Add your private key file name into the command – you should have now something like that:
ssh -i vmebsagent-ssh-key-2023-01-17.key -o ProxyCommand="ssh -i vmebsagent-ssh-key-2023-01-17.key -W %h:%p -p 22 ocid1.bastionsession.oc1.eu-frankfurt-1.amaaaaaa2xxap7yavfza64wmp4olts3ed3zulc2pnb4yyewtd5jjrsqcj32q@host.bastion.eu-frankfurt-1.oci.oraclecloud.com" -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

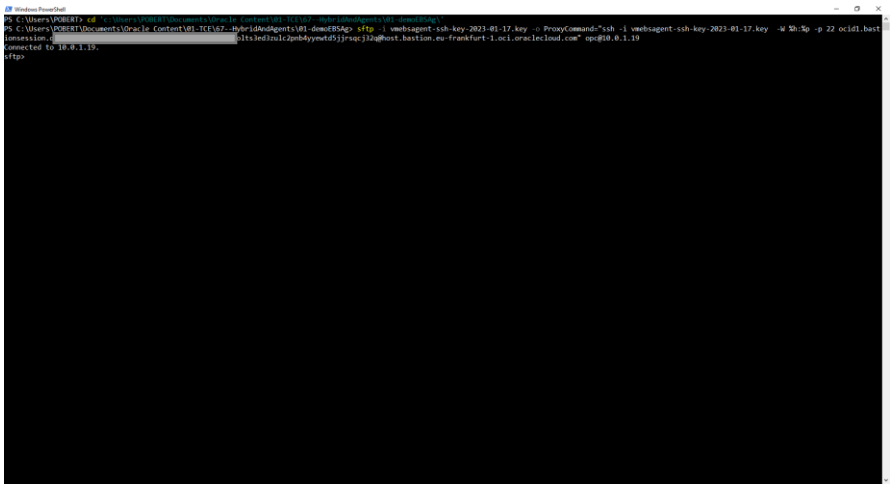
➢ *cd 'c:\xxxxxx\67--HybridAndAgents\01-demoEBSAg\'*



- SSH session command should work:

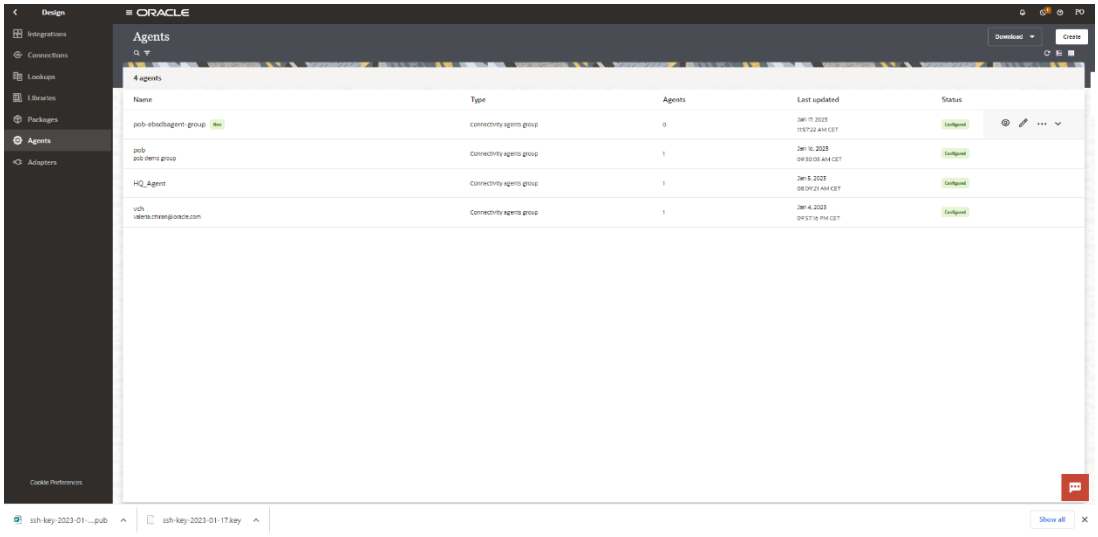


- Create directory e.g. *oic-agent* as directory you will use for dropping OIC Connectivity Agent installation files and configuration. Prepare sftp command from the ssh command. You should have something like that:
sftp -i vmebsagent-ssh-key-2023-01-17.key -o ProxyCommand="ssh -i vmebsagent-ssh-key-2023-01-17.key -W %h:%p -p 22 ocid1.bastionsession.oc1.eu-frankfurt-1.amaaaaaa2xxap7yavfza64wmp4olts3ed3zulc2pnb4yyewtd5jjrsqcj32q@host.bastion.eu-frankfurt-1.oci.oraclecloud.com" opc@10.0.1.19

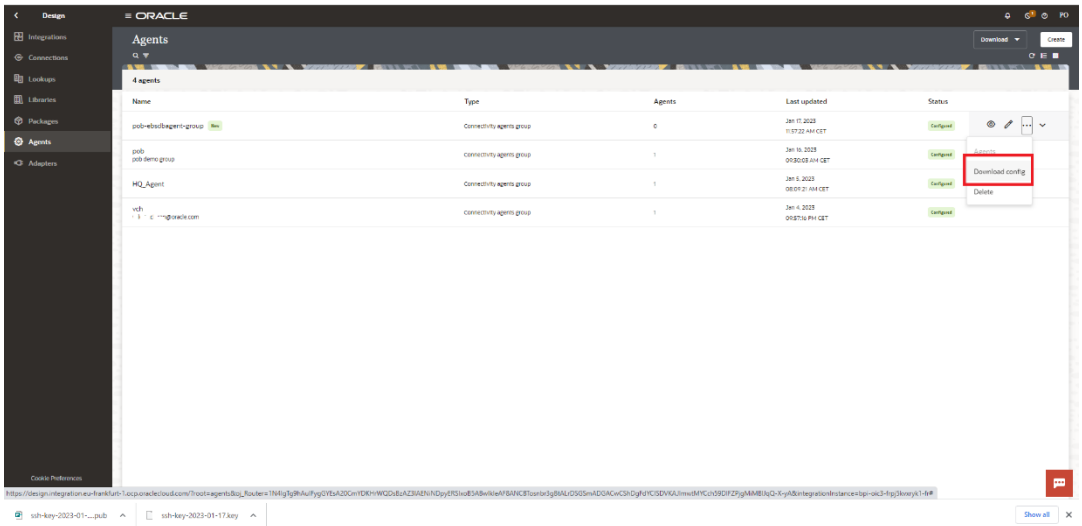


Open Oracle Integration Instance Console and go to Integrations->Design->Agents.

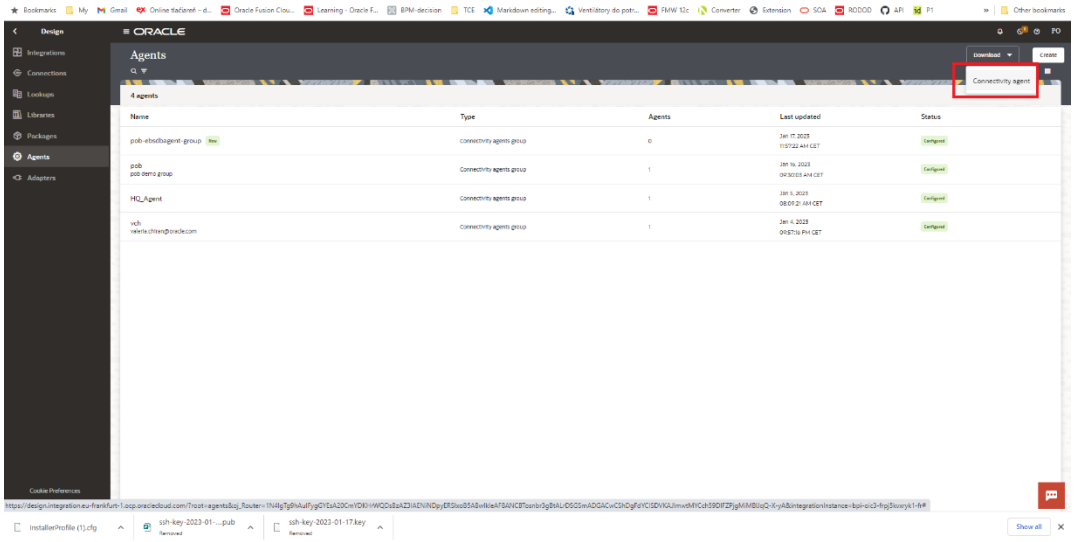
- Create new Agent Group for your Source/Target Integrated System. E.g. In my case *pob-ebsdbagent-group*
  Note: 0 Agents registered for the new Agent Group



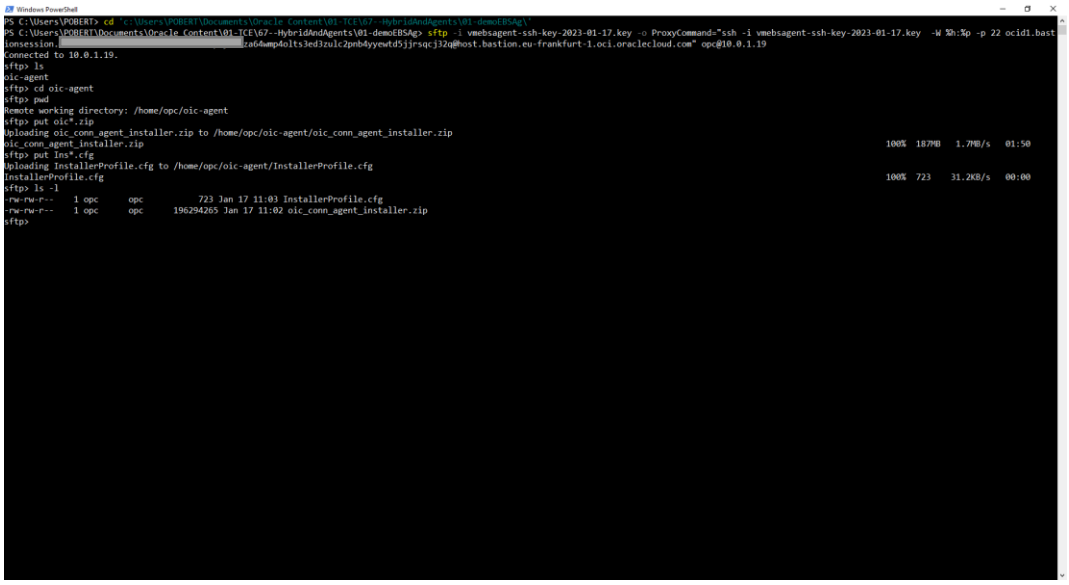
- Download configuration file for the Agent which should appear/register into this group.



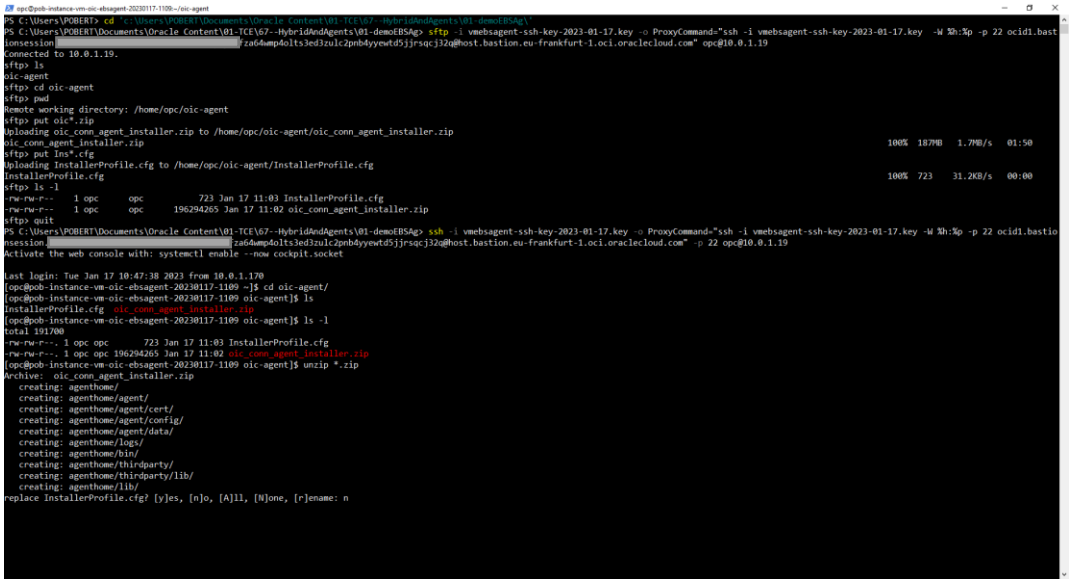
- Download connectivity Agent installation Archive



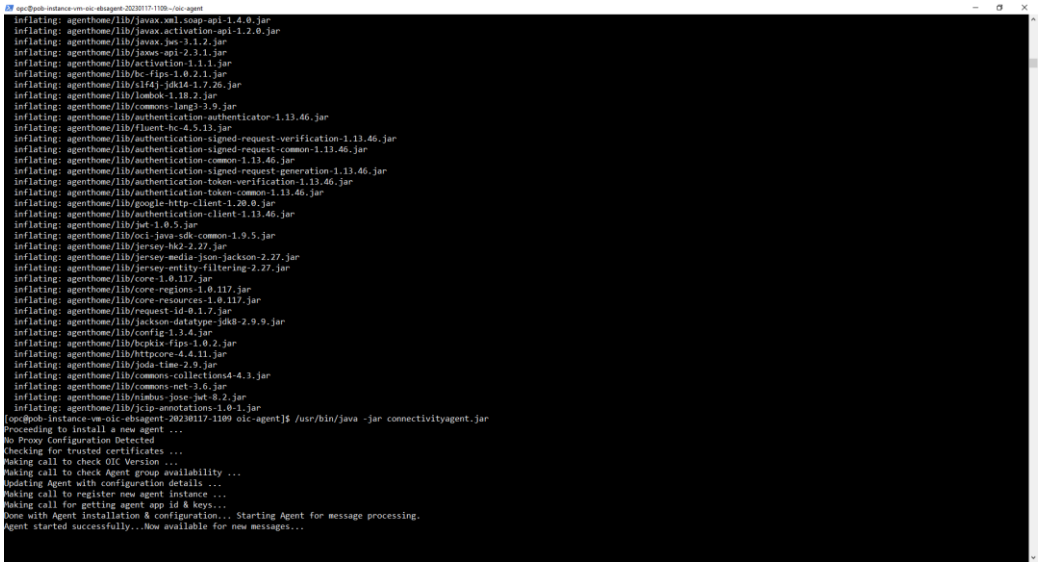
- Transfer the artifacts using sftp commands into the VM instance and *oic-agent* folder



- 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.

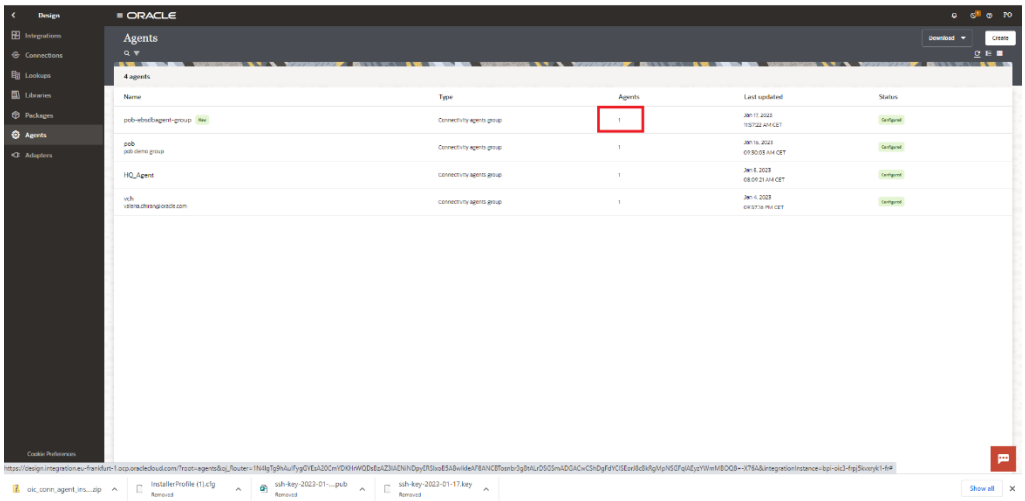


- Install the OIC Connectivity Agent by running following command:
  /usr/bin/java -jar connectivityagent.jar

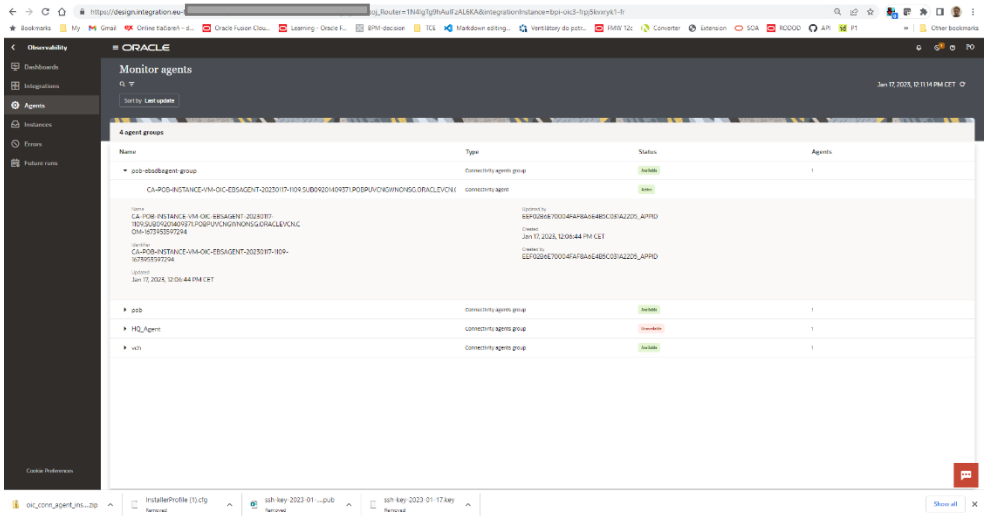


- Now in OIC console you should see that Agent is registered into the Agent Group.
  I recommend to kill the current running agent process and start it in background

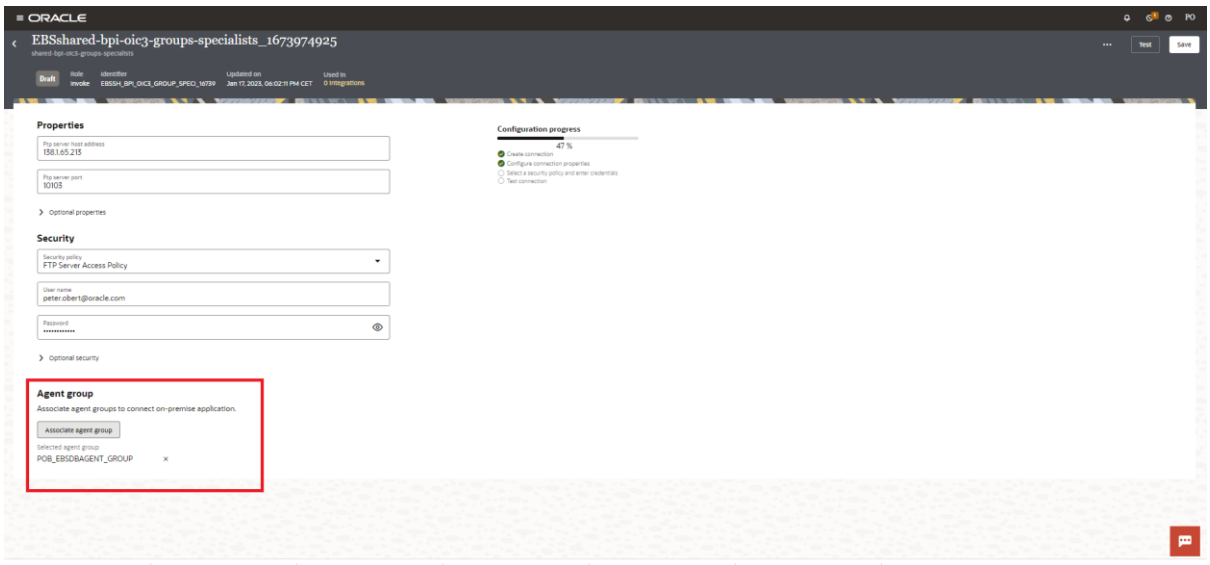
  sudo -s
  ps -ef | grep java
  kill -9 <pid of the agent>
  exit
  nohup /usr/bin/java -jar connectivityagent.jar &



- 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 #🌥