

Marketplace for MOSAiC

For MOSAiC a self-service portal, the so-called Marktplatz is provided in Bremerhaven. Users can rollout various pre-configured appliances with R-Studio / R-Shiny, JupyterHub, ... as well as Linux based Virtual Machines.



ALFRED-WEGENER-INSTITUT
HELMHOLTZ ZENTRUM FÜR POLAR
UND MEERESFORSCHUNG

AWI Cloud Marketplace - Service Broker



Stefan Pinkernell
Alfred-Wegener...



CatalogResourcesContent & PoliciesInfrastructureApprovals

My Resource Usage >

Catalog Items 6 items 

| Sort: Name (ascending) 



Docker Appliance
VMware Cloud Templates

Linux Server with Docker Daemon / Docker-Compose

Projects: MOSAiC

REQUEST



Jupyterhub Applia...
VMware Cloud Templates

Multiuser server to run Jupyter notebooks with Python and R
DMZ: https://<vmname>.cloud.awi.de
Intern:

Projects: MOSAiC

REQUEST



Linux Server NFS
VMware Cloud Templates

Basic Linux Server with shell or gui and nfs mounts to Isilon Storage
DMZ Projects
VM only DMZ network

Projects: MOSAiC

REQUEST



Linux Server SMB
VMware Cloud Templates

Basic Linux Server with shell or gui and possible smb mounts to Isilon Storage. - No NFS mounts

Projects: MOSAiC

REQUEST



RShiny Appliance
VMware Cloud Templates

RShiny Server to host interactive web apps build in R

Projects: MOSAiC

REQUEST



RStudio Appliance
VMware Cloud Templates

Web-based version of the integrated development environment (IDE) for R

Projects: MOSAiC

REQUEST



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 - [Request, roll-out and administrate Deployments \(Part 1\) - Request](#)
- [Deployments](#)
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Marketplace can be accessed via the links on the MOSAiC Welcome Page or via <https://marketplace.cloud.awi.de> using the MOSAiC User Account. Please use an up-to-date web browser.



AWI login

Username

Password

Login

OR use an external service to sign in:

HELMHOLTZ

RESEARCH FOR
GRAND CHALLENGES

(supports DFN / GEANT / eduGAIN)

After logging in successfully, choose "**Service Broker**" and you will be redirected to the start or catalog page of the self service portal. Several elements are available on the catalog page. The links to the pages **Deployments** is described in detail later on.

Catalog

Virtual Machines (VMs) can be requested and rolled out via the Catalog View:

Request, roll-out and administrate Deployments (Part 1) - Request

Rolling out a Catalog Element using the example of a JupyterHub.

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[Catalog](#)
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[REQUEST](#)

First a **Request** has to be performed. To do so the following information has to be provided:

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Service Broker

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New Request

Jupyterhub Appliance
Version **2**

Project *

MOSAiC

Deployment Name *

Jupyterhub-demo1

Python 3.7 Env.

☒

①

R 4.x Env.

☒

①

PDF Exporter

☒

①

VM Size

Large Memory (4cpu, 16GB)

①

Operating System

Ubuntu 20.04 LTS

①

Network

Intern (10.7.0.0/22)

①

SUBMIT

CANCEL

Choose **Project MOSAiC**.

Please enter a meaningful **Deployment Name** (under which your machine will appear in the deployments section later).

The resources CPU and Memory are configured via **VM Size**. For some Catalog Items, CPU and Memory can also be extended after the time of creation. The storage is fixed though. Data is to be stored on the MCS and should not be stored on the VMs.

Other Catalog Items may have further individual fields. These always contain a specific naming or a short help text.

You can choose **Network**: intern and extern

- intern: you have access to your personal home folder and MOSAiC Folders; you need VPN to access the VM
- extern: you don't have access to your personal home folder; you have only limited access to data folders; your VM is accessible from the internet (without VPN)

The **Request** is sent by clicking Submit and the web site will automatically redirect to the **Deployments** View if all mandatory fields are filled out correctly.

Deployments

You can find your personal deployments in the Deployment View. A deployment is either a VM with optional additional software (e.g. JupyterHub), or a VM snapshot, XaaS processes, Deployments with status "in Progress" as well as completed deployments, expired deployments and failed deployments are listed. (Failed deployments should be reported to the data supporters or a system administrator on board.) Additional of a deployment in progress can be displayed. Runtime of completed deployments as well as additional information such as the IP for accessing the VM are listed. Detailed information is further available under **Actions** of **View Details** or by clicking on the name of the deployment. See also Request, roll-out and administrate Deployments (Part 3).

The screenshot shows the 'Deployments' view in the Alfred Wegener Institute Service Broker. The header includes the AWI logo and the text 'ALFRED-WEGENER-INSTITUT HELMHOLTZ-ZENTRUM FÜR POLAR- UND MEERESFORSCHUNG Service Broker'. The user 'Stefan Pinkernell' is logged in. The left sidebar shows navigation options: Catalog, Resources (selected), Content & Policies, Infrastructure, and Approvals. The main content area displays a table of deployments. The table has columns: Name, Address, Owner, Project, Status, Expires on, and Price. A deployment named 'jupyterhub-demo2' is selected, and a context menu is open over it, showing actions like 'Connect to Remote Console', 'Create Snapshot', 'Delete', 'Power Off', 'Reboot', 'Resize', 'Shutdown', and 'Suspend'.

Name	Address	Owner	Project	Status	Expires on	Price
jupyterhub-demo2		spinkern	MOSAIC		in a year	
SE-VRA-UMGD-E						
vra-MOSAIC						
vra-design-jupyter						
mos-000782						
mos-000783	134.17.16			On		

Request, roll-out and administrate Deployments (Part 2) - Administrate

Deployment Actions

In the **Deployments** View, open the details by clicking the arrow left of the deployment name. The menu with the deployment actions opens by clicking the symbol with the three dots next to the deployment name and offers the following **Actions**:

Change Lease

Change/Extend the lifetime of a deployment.

Change Owner

Transfer a deployment to a different user (e.g. a scientist on the next leg)

Delete

Immediate deletion of a deployment.

Power Off

Shut down a VM

VM Actions



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Service Broker

?

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Catalog
Resources
Content & Policies
Infrastructure
Approvals

Deployments
Resources
All Resources
Virtual Machines
Volumes
Networking & Security

Deployments

1 Item

jupyterhub-demo2

Name	Address	Owner	Project	Status	Expires on	Price
jupyterhub-demo2		spinkern	MOSAIC		in a year	
SE-VRA-UMGD-E						
vra-MOSAIC						
vra-design-jupyter						
mos-000782						
mos-000783	134.17.16			On		

Connect to Remote Console
Create Snapshot
Delete
Power Off
Reboot
Resize
Shutdown
Suspend

1 Deployments

Create/Delete/Revert To Snapshot

Creating, deleting and resetting a snapshot. Only one snapshot at a time can exist. Information about an existing snapshot can be found via the snapshot overview.

Power Off/On

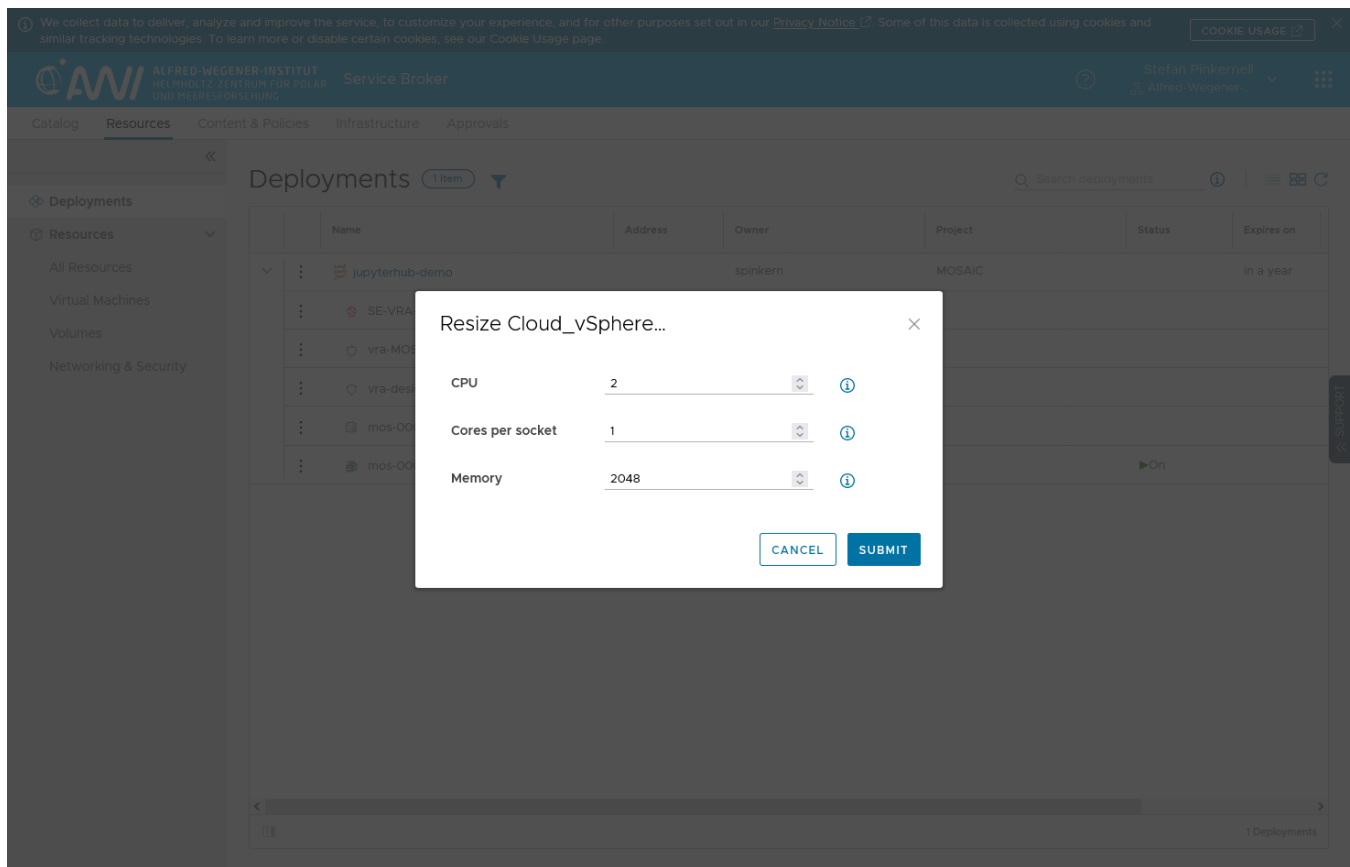
Hard power off of a VM (without shutting down the guest system) / Power on a VM

Reboot

Soft reboot of a VM, guest system is shutdown, afterwards the VM is started again.

Resize

Resources of a VM can be configured by the user at a later stage.



Number of CPUs, memory and network are configurable.

Max. values of CPU and memory are listed. If this is not sufficient contact the data supporter.

Extensions of storage are not available since data shall be stored on the mounted filesystem of the MCS. Existing volumes can not be changed.

The point in time when reconfigurations are to be performed by be specified under Execution.

A reboot may be necessary !!! Per default, this is performed by the system if nothing else is specified under Power Action. Please also check the Info Icon.

Shutdown

Soft shutdown of a VM. Guest system will be shutdown.