

# 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](#)

- [Catalog](#)
  - [Request, roll-out and administrate Deployments \(Part 1\) - Request](#)
- [Deployments](#)
  - [Request, roll-out and administrate Deployments \(Part 2\) - Administrate](#)
    - [Deployment Actions](#)
    - [VM Actions](#)

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
Resources
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Approvals

My Resource Usage >

Catalog Items

6 items

⌵

Q Search

Sort:
Name (ascending)

⌵

↺



Docker Appliance  
VMware Cloud Templates

Linux Server with Docker Daemon / Docker-Compose

Projects: MOSAiC

REQUEST



Jupyterhub Appliance...  
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REQUEST



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RShiny Appliance  
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REQUEST



RStudio Appliance  
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REQUEST

SUPPORT

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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Catalog
Resources
Content & Policies
Infrastructure
Approvals

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

SUPPORT

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. Under 'Resources', there are links to All Resources, Virtual Machines, Volumes, and Networking & Security. The main content area is titled 'Deployments' and shows a table with 1 item. The table has columns: Name, Address, Owner, Project, Status, Expires on, and Price. The deployment 'mos-000783' is highlighted, and a context menu is open over it, showing actions: Connect to Remote Console, Create Snapshot, Delete, Power Off, Reboot, Resize, Shutdown, and Suspend. The deployment 'mos-000783' has an address of '134.17.16' and a status of 'On'.

| 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

The screenshot shows the AVI Service Broker interface. The top navigation bar includes the AVI logo and the text 'ALFRED-WEGENER-INSTITUT HELMHOLTZ-ZENTRUM FÜR POLAR- UND MEERESFORSCHUNG' and 'Service Broker'. The user 'Stefan Pinkernell' is logged in. The main navigation tabs are 'Catalog', 'Resources', 'Content & Policies', 'Infrastructure', and 'Approvals'. The left sidebar shows a tree view with 'Deployments' and 'Resources' expanded. The main area displays a table of deployments. One deployment, 'jupyterhub-demo2', is selected, and a context menu is open over it, listing actions: Change Lease, Change Owner, Delete, Edit Deployment, Power Off, Change Project, and Power On. The table has columns for Name, Address, Owner, Project, Status, Expires on, and Price.

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  |       |
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| 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

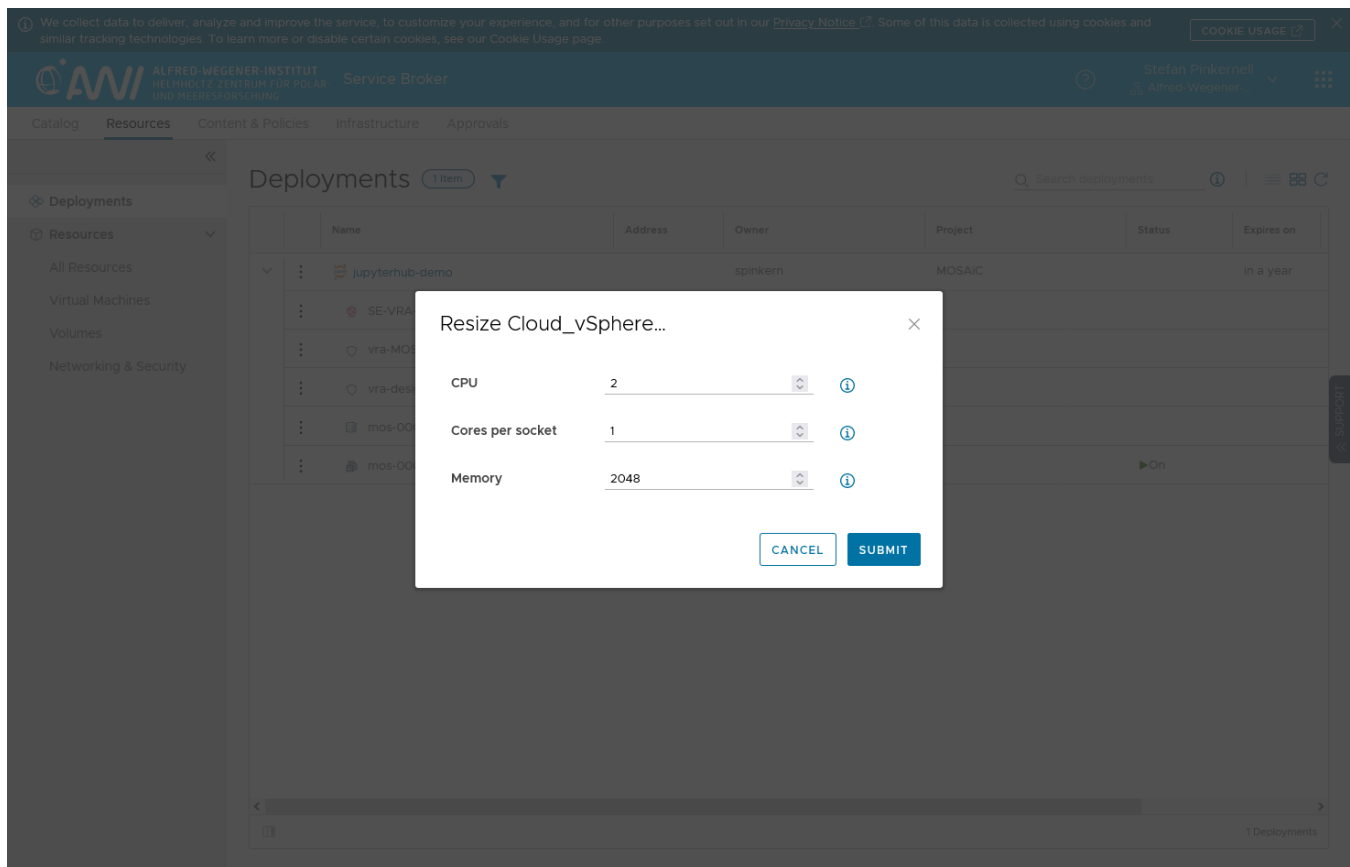
Hard power off of a VM (without shutting down the guest system) / Power on a VM

### 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.