

# Marketplace for MOSAiC

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

The screenshot displays the AWI Cloud Marketplace interface. At the top, the header includes the AWI logo and the text 'ALFRED-WEGENER-INSTITUT HELMHOLTZ-ZENTRUM FÜR POLAR UND MEERESFORSCHUNG' and 'AWI Cloud Marketplace - Service Broker'. The user 'Stefan Pinkernell' is logged in. The main navigation menu includes 'Catalog', 'Resources', 'Content & Policies', 'Infrastructure', and 'Approvals'. Below this, there is a 'My Resource Usage' section and a 'Catalog Items' section showing 6 items. The items are: Docker Appliance (Linux Server with Docker Daemon / Docker-Compose), Jupyterhub Appliance (Multiuser server to run Jupyter notebooks with Python and R), Linux Server NFS (Basic Linux Server with shell or gui and nfs mounts to Isilon Storage), Linux Server SMB (Basic Linux Server with shell or gui and possible smb mounts to Isilon Storage), RShiny Appliance (RShiny Server to host interactive web apps build in R), and RStudio Appliance (Web-based version of the integrated development environment (IDE) for R). Each item card includes a 'REQUEST' button. A search bar and a sort dropdown (Name ascending) are also visible.

- [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

OR use an external service to sign in:

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**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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**AWI Cloud Marketplace - Service Broker**

 ? | Stefan Pinkernell  
 Alfred-Wegener...

Catalog Resources Content & Policies Infrastructure Approvals

## My Resource Usage >

### Catalog Items 6 items

Search: \_\_\_\_\_ | Sort: **Name (ascending)**



**Docker Appliance**  
VMware Cloud Templates

Linux Server with Docker Daemon / Docker-Compose

Projects: MOSAIC

REQUEST



**Jupyterhub Appliance**  
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

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.**  ⓘ

**R 4.x Env.**  ⓘ

**PDF Exporter**  ⓘ

**VM Size** Large Memory (4cpu, 16GB) ⓘ

**Operating System** Ubuntu 20.04 LTS ⓘ

**Network** Intern (10.7.0.0/22) ⓘ

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 Service Broker interface for the Alfred Wegener Institute. The main content area displays a table of deployments. The table has columns for Name, Address, Owner, Project, Status, Expires on, and Price. The following table represents the data shown in the screenshot:

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	134.1.7.16			On		

A context menu is open over the 'mos-000783' row, listing the following actions: Connect to Remote Console, Create Snapshot, Delete, Power Off, Reboot, Resize, Shutdown, and Suspend.

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

### Deployment Actions

The screenshot shows the Service Broker interface with the following components:

- Header:** AVI ALFRED-WEGENER-INSTITUT HELMHOLTZ-ZENTRUM FÜR POLAR- UND MEERESFORSCHUNG Service Broker. User: Stefan Pinkernell.
- Navigation:** Catalog, Resources (selected), Content & Policies, Infrastructure, Approvals.
- Left Sidebar:** Deployments, Resources (All Resources, Virtual Machines, Volumes, Networking & Security).
- Main View:** Deployments (1 item). Search: jupyterhub-demo2.
- Table:**

Name	Address	Owner	Project	Status	Expires on	Price
jupyterhub-demo2		spinkern	MOSAIC		In a year	
mos-000783	134.17.16			▶On		
- Context Menu (over jupyterhub-demo2):**
  - Change Lease
  - Change Owner
  - Delete
  - Edit Deployment
  - Power Off
  - Change Project
  - Power On

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
 Stefan Pinkernell

Catalog Resources Content & Policies Infrastructure Approvals

**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	134.1.7.16			▶ On		

Context menu for mos-000783:
 

- 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**

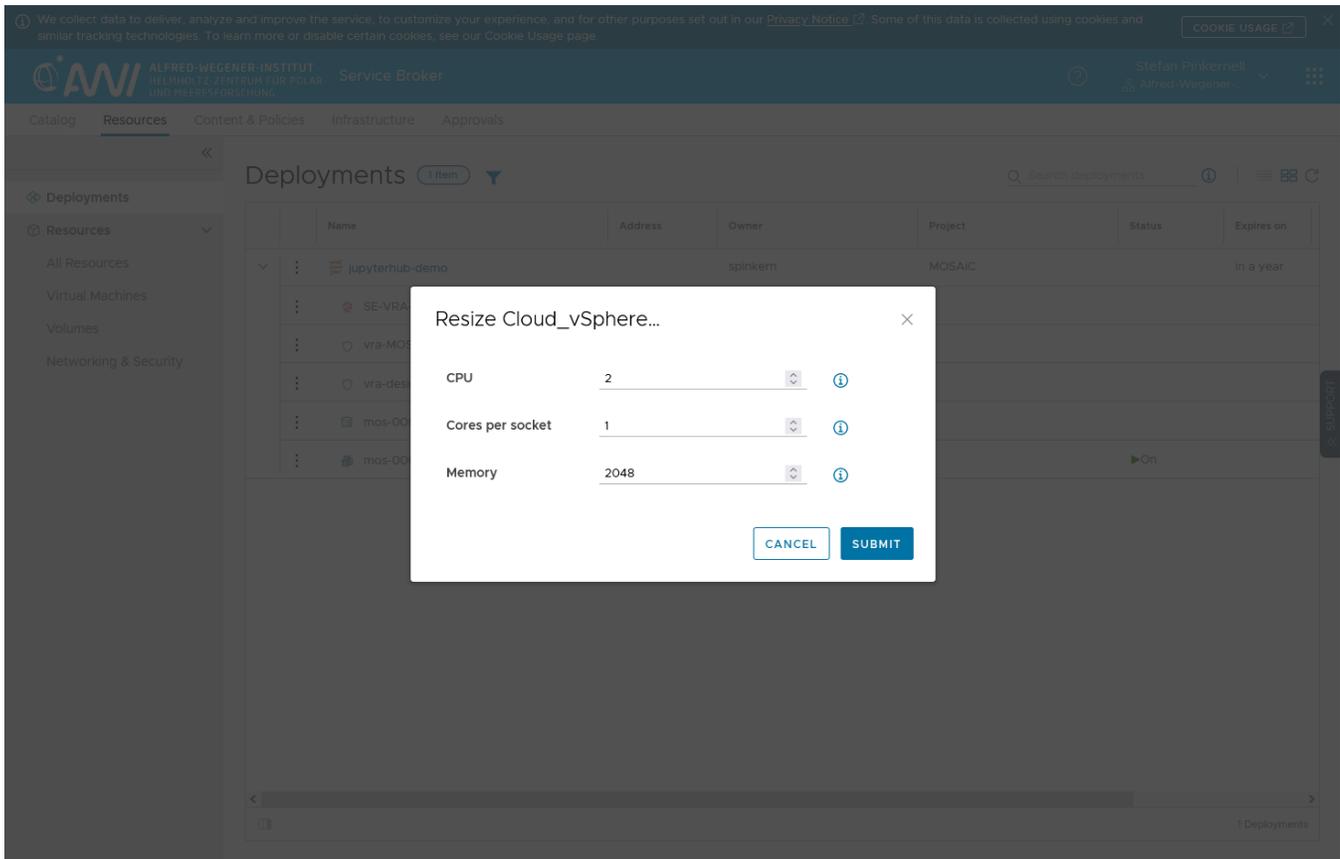
Hard power off of a VM (without shutting down the guest system) / Power on a VM

**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.