

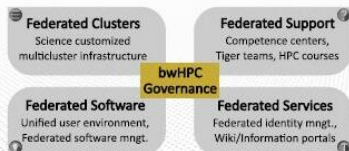
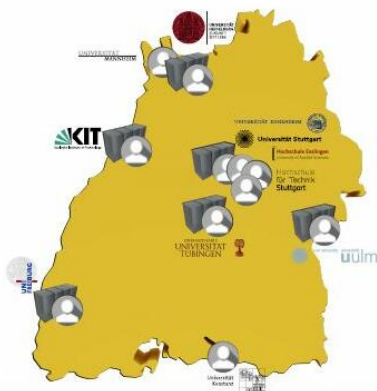
## Access the bwUniCluster



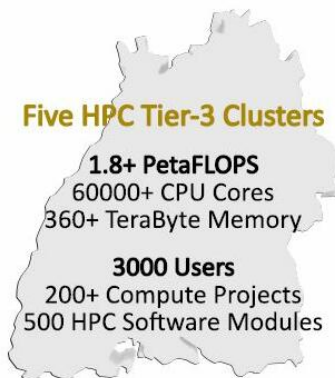
bwHPC support team Hohenheim

## bwUniCluster in a nutshell

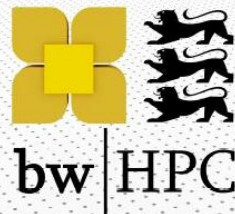
### Baden-Württemberg Federated HPC



### Baden-Württemberg High Performance Computing



[www.bwhpc.de](http://www.bwhpc.de)



- The bwUniCluster ist part of the Baden-Württemberg High Performance Computing infrastructure, funded by the state of Baden-Württemberg
- Provides computational ressources to members of several universities (including Hohenheim) - free of charge
- Many computations per user at the same time (in parallel) by distributing them across many computation nodes/cores

## Getting access in 5 steps

1. Apply for bwUniCluster entitlement (here at University of Hohenheim/at your home university)
2. Choose two factor authentication (2FA) method (additional SMARTPHONE, TABLET, 2nd COMPUTER, HARDWARE TOKEN NEEDED)
3. Access the bw identity management web service, set up 2FA
4. Register for bwUniCluster 2
5. Fill out questionnaire



You can now access the bwUniCluster!

# 1. How to get the bwCluster entitlementment?

<https://kim.uni-hohenheim.de/bwhpc>



Kommunikations-, Informations- und Medienzentrum (KIM)

KIM für  
Beschäftigte Arbeitsplatz Literatur Für Institute Lehre & Forschung Unterstützung Über uns   English

Startseite > Lehre & Forschung > Hochleistungsrechnen (bwHPC)

## Hochleistungsrechnen (bwHPC)



Photo by Simon Raffelner, KIT

Um der stetig zunehmenden Bedeutung des wissenschaftlichen Rechnens in Forschung, Lehre und Studium Rechnung zu tragen, wurde in Baden-Württemberg für das Hoch- und Höchstleistungsrechnen das Landeskonzept „bwHPC“ entwickelt. Dieses Konzept berücksichtigt die Förderung des High Performance Computing (HPC) auf allen **Leistungsebenen (Tier3-0)** und gliedert sich damit nahtlos in nationale und europäische Versorgungskonzepte auf dem Gebiet des Höchstleistungsrechnens ein.

Das Begleitprojekt **bwHPC-S5** "Scientific Simulation and Storage Support Services" dient als Bindeglied zwischen den Wissenschaftlern und High Performance Computing (HPC)-Systemen in Baden-Württemberg. Es bietet den Wissenschaftlerinnen und Wissenschaftler im Land einen umfassenden und bedarfsorientierten Service rund um die vorhandenen HPC-Systeme. Das bwHPC-S5 Projekt wird vom Ministerium für Wissenschaft, Forschung und Kunst Baden-Württemberg gefördert.



### News

- > Stelle bwHPC & FDM
- > Helix- Nachfolge  
MLS&WiSo
- > bwHPC Kurse in BW
- > aktuell & Kalender/Kurse  
Forschungsdaten.info
- > Newsletter bwHPC
- > HPC in Deutschland (GA)

### Zugang

- > **Anmeldeformular  
bwUniCluster/ForCluster  
(Tier 3)**

- Go to <https://kim.uni-hohenheim.de/bwhpc> (non-HO: see [bwHPCwiki](#))
- Fill out the application form online (in German or English)
- **IMPORTANT:** To get access, you need the approval of your institute

## 1.2 The online request form

**Request user account for bwHPC computing cluster**

Please fill out directly on the computer and then print. Forms that cannot be read could be processed with a delay, incorrectly processed all. Then please Registration, [bwHPC-S5 \(local\)](#), [bwHPC](#)

**Submission:** Please submit via post to Universität Hohenheim, KIM (630), D-70593 Stuttgart or in person to [Brigitte Wellenkamp](#).

**Institute**

Organization

Institute / Dept. (with number)\*

Institute Director

**User**

Form of address

Status

First name(s)

Last name

Hohenheim user account <sup>1</sup>

Telephone number

Hohenheim email

**Project**

Project Title

Subject area of project

Subject classification

Brief description of the project (max. 5 lines)

HPC primary group (if known)

End of use (tentatively)

High-performance computer

☒ bwUniCluster

☐ bwFurCluster

Send via  
Hauspost/bring  
signed printout

(also **signed and stamped** by  
institute's  
management)

## 2. Why 2FA and how to do it?

- **Why?** We need extra security, HPC resources are valuable hacking targets
- **How?** You need to use a different device (added security) with a software that produces six-digit, auto-generated, time-dependent One-Time Passwords (TOTP)
- Either via special hardware (Hardware token) or e.g. generated on a smartphone/tablet. This device produces TOTP's (change very quickly, have the device near you when working with bwUniCluster)
- Some apps/programs for this (e.g. for mobile devices): FreeOTP+ ([Android](#)), Google Authenticator ([Android](#), [iOS](#)), Microsoft Authenticator ([Android](#), [iOS](#)), LastPass Authenticator ([Android](#), [iOS](#), [Windows](#)), Authy ([Mobile](#), [Mac](#), [Windows](#), [Linux](#), requires account),...
- See more details: [bwHPC-Wiki](#)

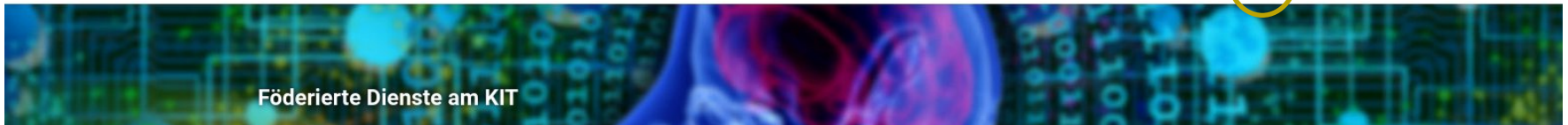
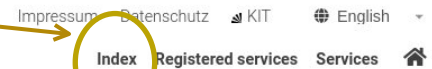
Your job: Decide on option and make it work (e.g. install the app). Please contact us if there are any questions, we are happy to help!

### 3. bw identity management interface

1. Go to <https://bwidm.scc.kit.edu>, choose your home university (Hohenheim), log in with your Hohenheim user account



1. Your user information may be shown, continue
2. Go to Index -> My Tokens to configure the **two factor authentication** (your menu may look slightly different)



### 3. Setting up two factor authentication

After clicking My Tokens:

Add a new token on a device

(+ TAN list as backup afterwards)

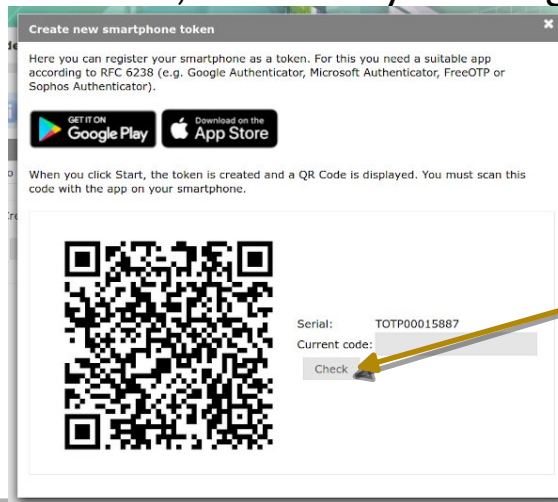
*If you have no token yet, the TAN list option may not be available*

Create a new token here.



Click to build new token (by following the instructions).

Example: For the smartphone token, you need to scan a QR-code with the 2FA app you installed, and then you can get your one time passwords (TOTP) from the app



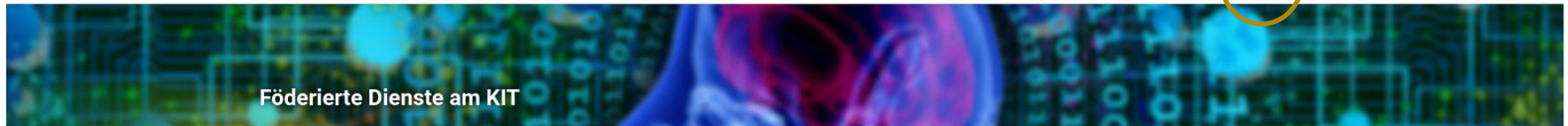
- Don't save the QR code, only scan it! (safety reasons)
- Check whether your method works
- Activate backup TAN list, again via My Tokens,... & **print it**
- Your token(s) should appear under My Token

## 4. Register for bwUniCluster

### 1. Go back via Index



Impressum Datenschutz KIT English  
Index Registered services Services



1. Your registered services and open-for-registration services are shown
2. Click the Register button for bwUniCluster 2.0 and follow the instructions
3. Set strong password (NOT your Hohenheim User Account password) for the bwUniCluster
4. After registration: Click Registry info to see your user name (Registry info replaces Register on the service menu)

The following services are available:

#### bwUniCluster 2.0

Der am Steinbuch Centre for Computing (SCC) des Karlsruher Institut für Technologie (KIT) betriebene bwUniCluster 2.0 ist eines von mehreren zentralen Systemen für eine flächendeckende Grundversorgung der baden-württembergischen Universitäten und Hochschulen mit Hochleistungsrechnerkapazität.

[Service description](#)  
[Register](#)

This user name is used to login on bwUniCluster  
(+ 6-digit TOTP, see 2FA)

## 5. Fill out the online questionnaire + preliminaries

- **Why a questionnaire?** We (the bwHPC team) need it to improve our support activities and for capacity planning of future HPC resources
- **It IS mandatory**, if you don't complete it your account gets blocked after a few days
- The questionnaire can be found at [https://zas.bwhpc.de/shib/en/bwunicluster\\_survey.php](https://zas.bwhpc.de/shib/en/bwunicluster_survey.php)

Now you can access the bwUniCluster!

1. Via ssh connection on Linux/macOS
2. We recommend to use MobaXterm for connecting on a Windows system. The Home Edition is freely available at <https://mobaxterm.mobatek.net>
3. **IMPORTANT:** You can only connect from within a participating institution's network – you need to be inside the Hohenheim network. If you are not by default in it (at the office,...), connect to it via [VPN connection](#)

## Access the cluster (Linux/macOS)

Prerequisites: Your user name **ho\_name** + your service password for bwUniCluster, 2FA device at hand to generate TOTP number, command line, inside the Hohenheim network

- Command line: Log in via **ssh -X ho\_name@bwunicluster.scc.kit.edu** (-X enables X11 forwarding, works also w/o it)
- Enter a current (T)OTP number and your service password

```
Your OTP: 240919
Password: 
```

You're in! This is the command line of the bwUniCluster 2.0.

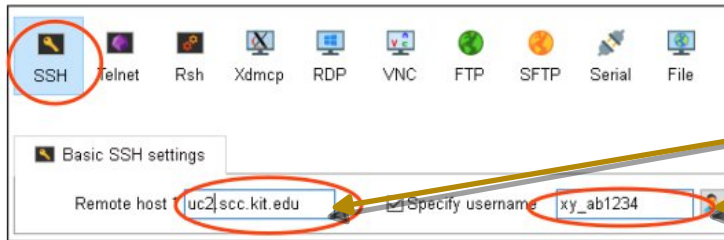
```

password.
*****
*                               *
* [bwUniCluster 2]             *
*                               *
* (KITE 2.0, RHEL 8.2, Lustre 2.12.6_ddn51)
*                               *
* wiki: https://wiki.bwhpc.de/e/bwUniCluster_2.0
*                               *
* ticket system: https://www.bwhpc.de/supportportal
* email: bwunicluster@bwhpc.de
*                               *
* training: https://training.bwhpc.de
* email: training@bwhpc.de
*                               *
* *****
* Last login: Wed Nov 10 13:51:24 2021 from 2001:7c0:2702:61::12a
*                               *
* News für Standort
*                               *
* *****
[ho_@uc2n994 ~]$
  
```

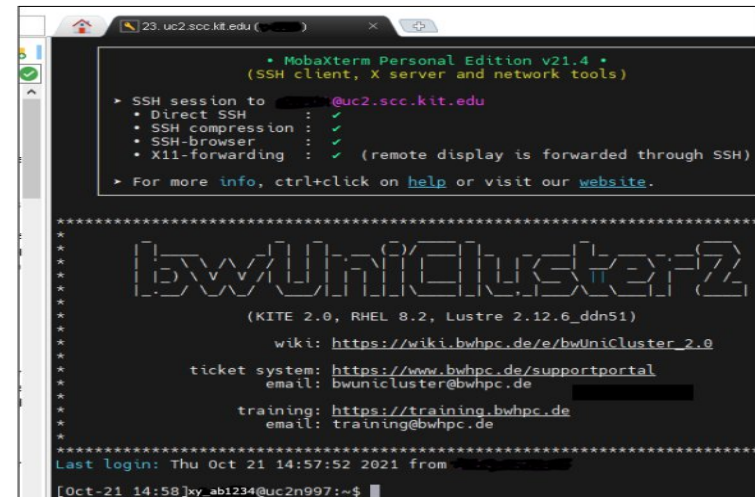
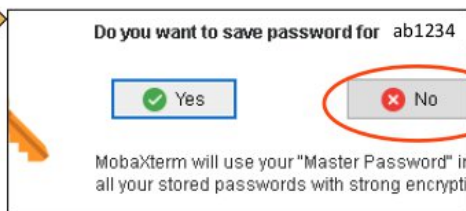
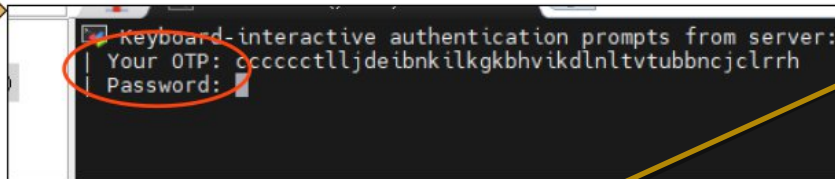
# Access the cluster (Windows, via MobaXterm)

Prerequisites: user name **ho\_name**, service password bwUniCluster, (T)OTP from 2FA device, command line, MobaXterm terminal, inside the Hohenheim network

1. Open SSH tab
2. Log in on host **bwunicluster.scc.kit.edu** with your own user name **ho\_name**



1. Enter (T)OTP and your service password
2. **DON'T** save password (safety...)
3. You're in!



## Your tasks

- Access the bwUniCluster - does it work? Can you type on the command line?
- Contact us if it does not work.
- To exit the cluster, type **exit** on the command line and press Enter (Enter executes what you have written, here the command **exit**).

See you! Tomorrow?

Fabian Freund [fabian.freund@uni-hohenheim.de](mailto:fabian.freund@uni-hohenheim.de) (until Oct 31st)  
and Brigitte Wellenkamp [brigitte.wellenkamp@uni-hohenheim.de](mailto:brigitte.wellenkamp@uni-hohenheim.de)