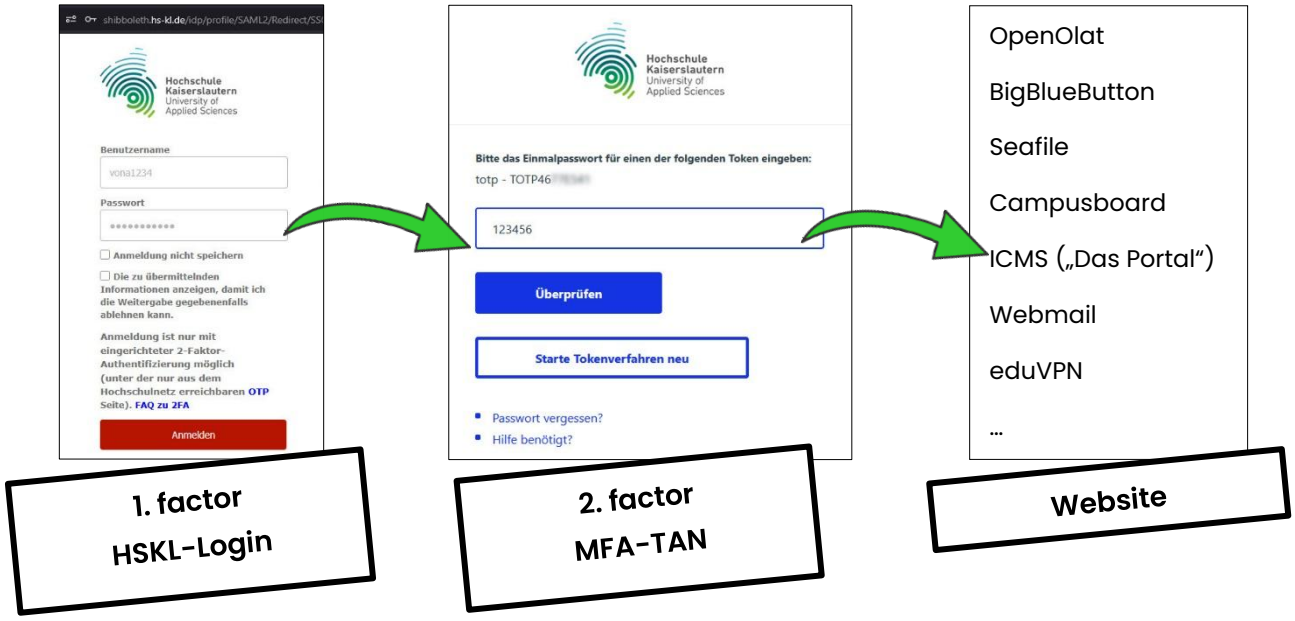
Multifactor authentication (MFA)

Version 1.8, 17.06.2026

To log in to online services such as OpenOlat, BigBlueButton, eduVPN, Seafile, Panopto or OWA (all services with authentication via *Shibboleth*), you need not only your HSKL login (username and password) but also an additional authentication factor for these services.

With such a *multifactor authentication (MFA)*, it is no longer possible for strangers to access all your data if your login credentials are compromised (e.g., through malware or phishing emails).



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1. Authentication methods

Three authentication methods are currently supported:

- **TOTP: TAN password with time limit**
  With this method, a code is generated that changes every 30 or 60 seconds. To log in, you must enter the current code.
  An authenticator app is required for this method!
  → see section ‘Authenticator apps’

- **PPR: TAN list with index**
  With this method, a numbered TAN list is generated. To log in, you must enter the TAN with the corresponding number.
  → see section ‘TAN list’

- **YubiKey**
  This method uses a USB hardware key. To log in, you must press a button on the YubiKey, which is plugged into an available USB port on your device.
  Special hardware is required for this method!
  → see section ‘YubiKey’

We highly recommend **setting up at least two different authentication methods** in case one method is not available or does not work. **Especially if you do not have the option of logging into the university network on site**, as VPN access via eduVPN is also secured with a second factor.
For example, a printed TAN list or the YubiKey on your key ring is a good alternative if your smartphone is not at hand or is not charged.

When you get a new smartphone or after resetting your smartphone, you’ll need to set up authentication via the app again. A “backup TAN list” is very useful in this situation as well.

1.1 Authenticator apps (TOTP)

An authenticator app is required for the TOTP method. There is a whole range of such apps and the multi-factor authentication we use should work with most of them.

Below we have listed a selection of popular authenticator apps that we have tried ourselves and that are available for both Android and iOS devices.

- **privacyIDEA Authenticator (*our recommendation!*)**
  The authenticator app from the provider of our MFA system.
  - Google Play Store
  - Apple App Store

- **Google Authenticator**
  - Google Play Store
  - Apple App Store

- **Microsoft Authenticator**
  - Google Play Store
  - Apple App Store

- **Twilio Authy**
  - Google Play Store
  - Apple App Store

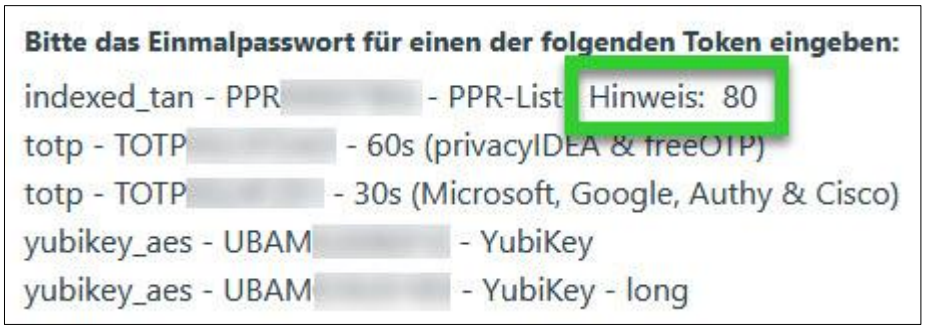
- **Cisco Duo Mobile**
  - Google Play Store
  - Apple App Store

- **FreeOTP**
  - Google Play Store
  - Apple App Store

1.2 TAN list (PPR)

A printed list of 100 one-time passwords (TANs). To log in, you must enter the TAN with the corresponding number („*Hinweis: xy*“).

Example: In this case, you must enter number 80 from the list to log in.



Keep the list in a safe place, and please remember to create a new list in plenty of time before all 100 TANs have been used.

1.3 YubiKey

The YubiKey is a security token from Yubico that generates an event-based one-time password. Currently, Shibboleth supports only these hardware keys; other well-known brands may be supported in the future.

The YubiKey is available in various versions with a different range of functions. You can find out more at https://www.yubico.com/products.

Image source: https://www.yubico.com

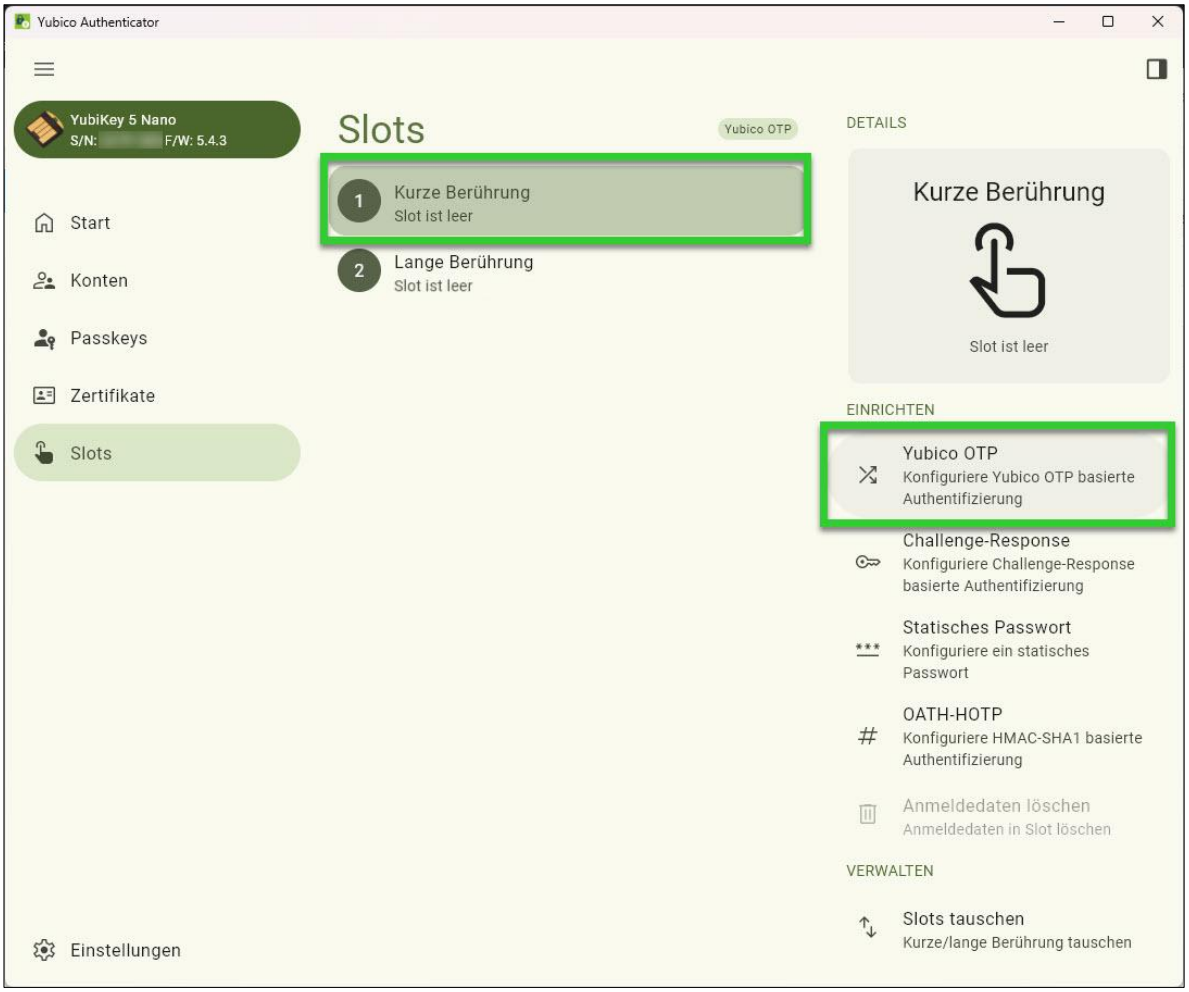
Konfiguration

1. Go to https://www.yubico.com/products/yubico-authenticator to download and install *Yubico Authenticator* for your operating system.

2. Plug the YubiKey into an available USB port on your device and launch the program.

3. Many YubiKeys can be configured with two different login methods, known as *"slots"*. This allows you to use the YubiKey for other applications as well. Pressing the *[Y]* button on the key briefly activates the first slot, while pressing and holding it (for about 2 seconds) activates the second slot.

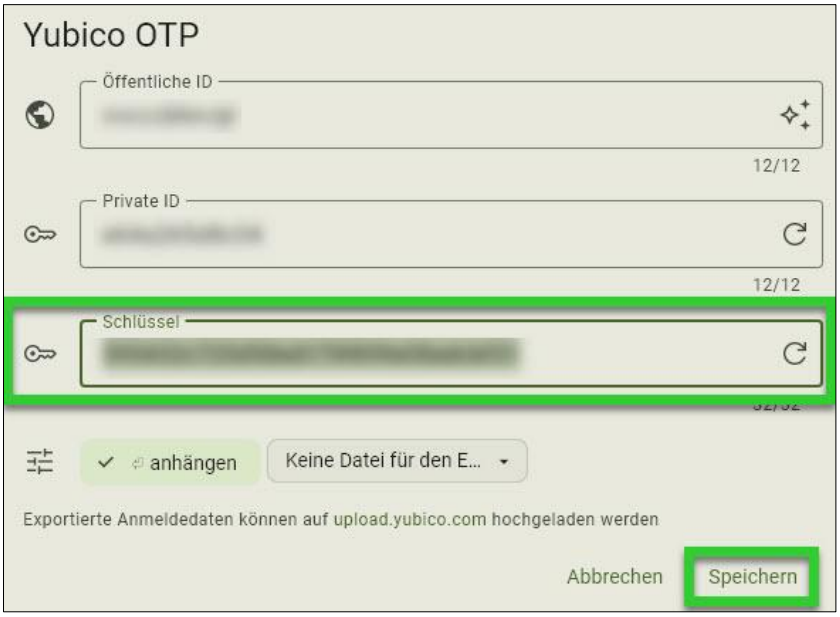
   Select an empty slot and click *„Yubico OTP“* on the right-hand side.



4. Click the three buttons on the right side of the three input fields. Leave the remaining settings unchanged.

5. Note down or copy the 32-digit *„Schlüssel“* (or *„Key“*). You'll need this when setting up multi-factor authentication.

   Then click *„Speichern“* (or *„Save“*).



6. The YubiKey is now fully configured, but it must still be integrated on the OTP page before it can be used (→ see section “Set up or configure multifactor authentication”).

2. Set up or configure multifactor authentication

Multifactor authentication is set up and configured via the page

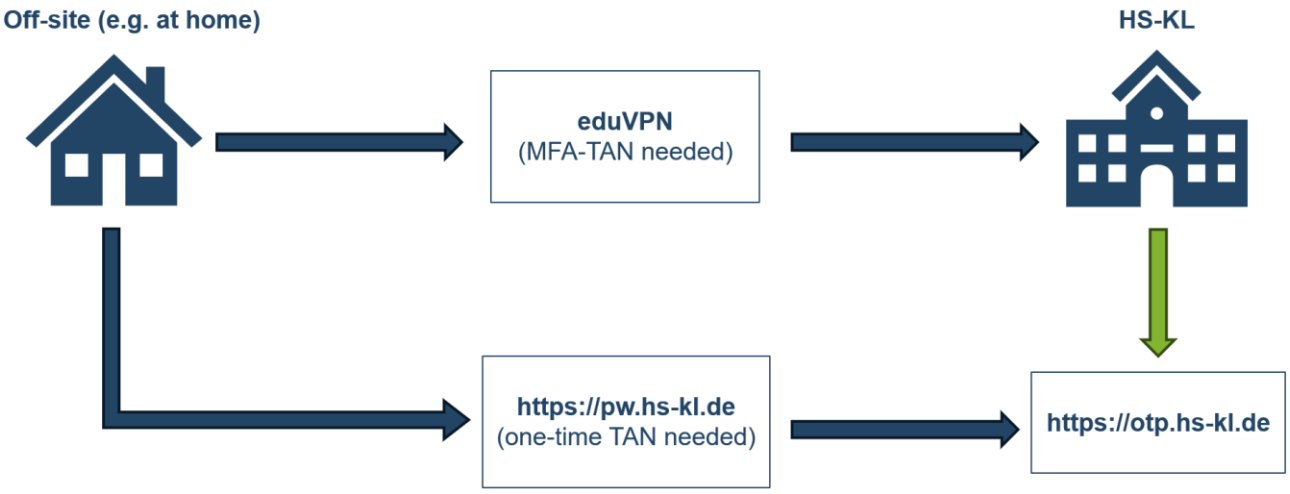
https://otp.hs-kl.de.

There are three ways to access this page:

1. Directly from the university network (LAN or Wi-Fi on campus).

2. Indirectly via a VPN connection to the university network using eduVPN. But a valid MFA-TAN is required for this. Information and instructions on eduVPN can be found at https://www.hs-kl.de/hochschule/servicestellen/rechenzentrum/dienste/vpn.

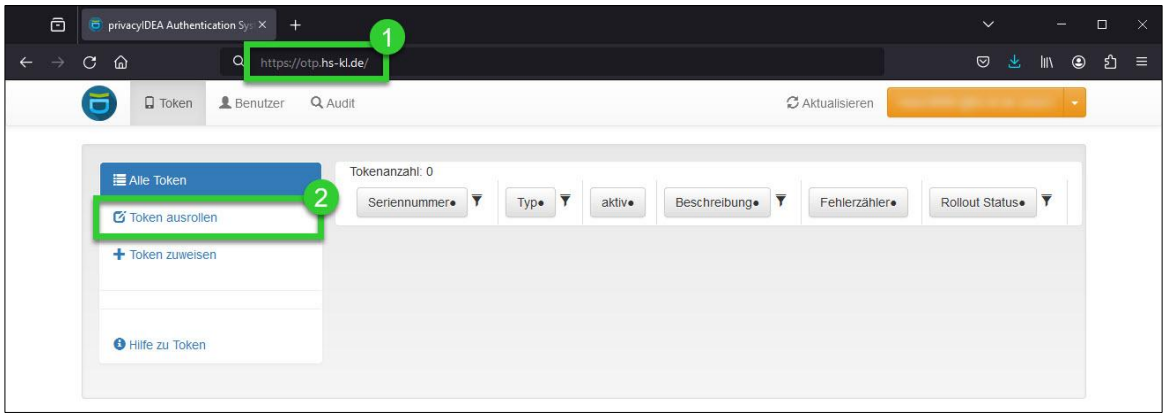
3. If you are **not** connected to the university's network, you will need a so-called *one-time TAN*. Section 2.2 explains how to obtain one.



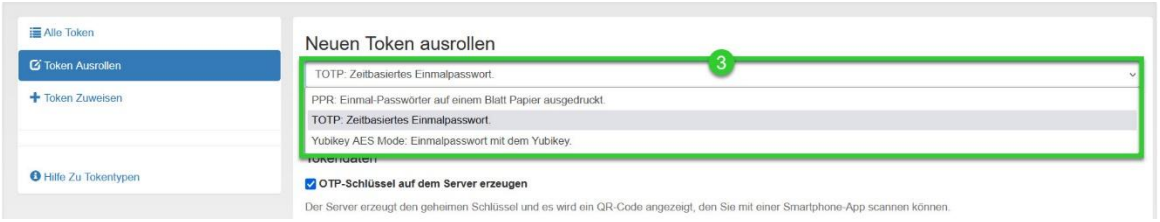
2.1 You are connected to the university's network

1. Go to https://otp.hs-kl.de and log in with your HSKL login.

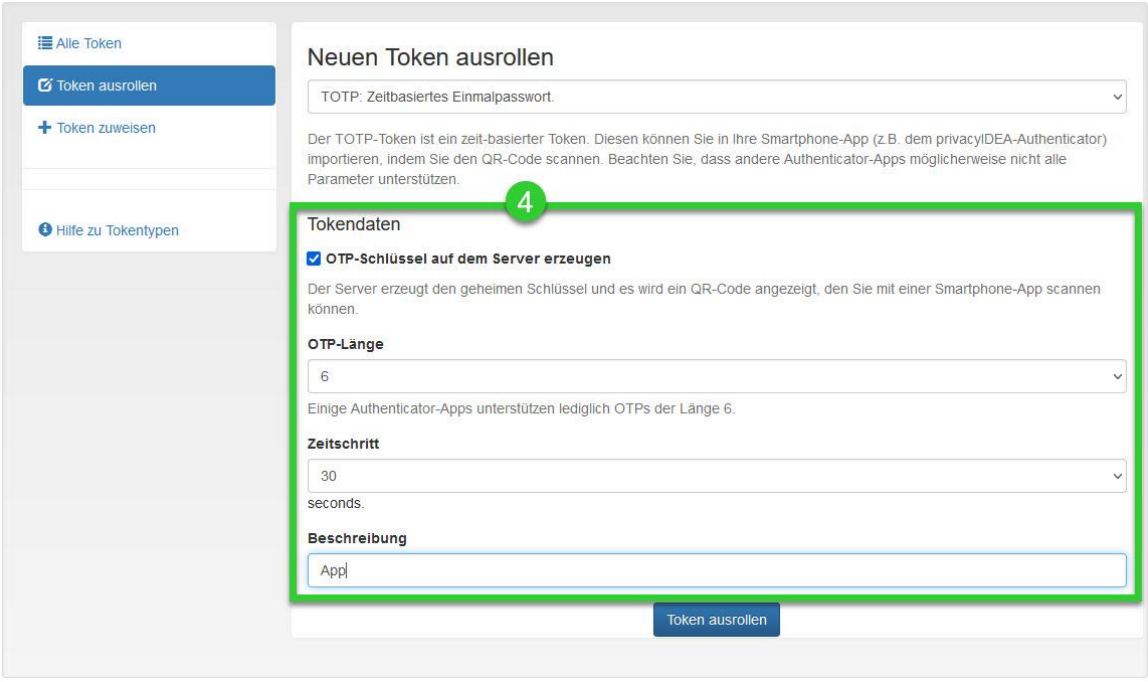
2. Click on *„Token ausrollen“*.

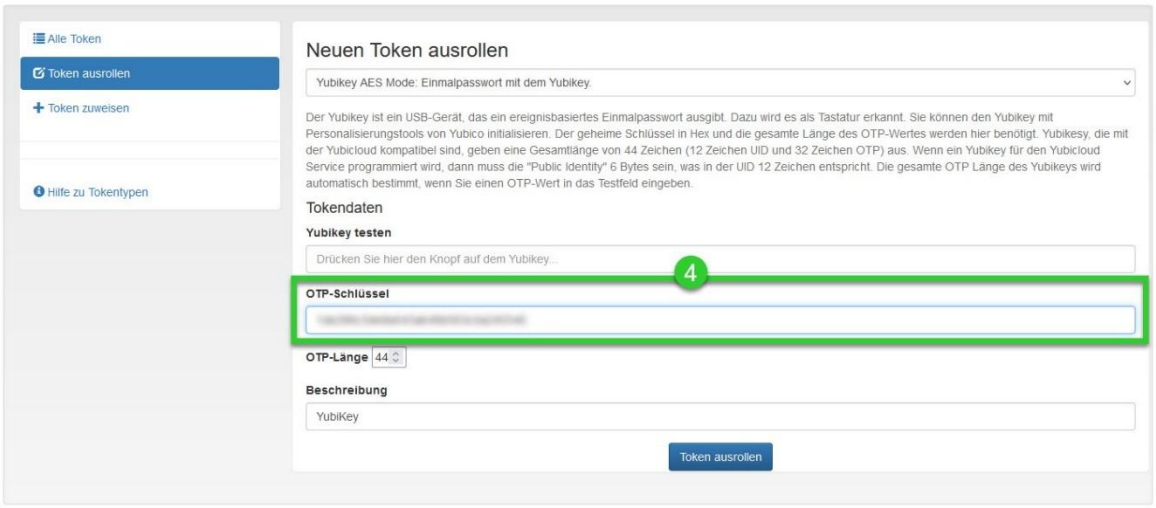


3. Select an authentication method (→ see section ‘Authentication methods’). A short description is displayed below for each method.



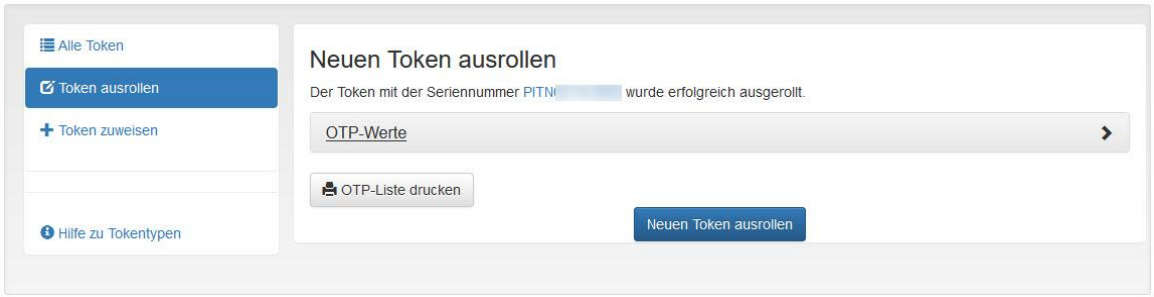
4. Adjust the settings as needed:
   - When using the *„privacyIDEA Authenticator“* app (TOTP method), you can set *„Zeitschritt“* to *„60 Sekunden“* verwenden. For all other apps, keep the default setting.
   - When using a YubiKey, you must enter the copied *„Schlüssel“/„Key“* (→ see section „Yubi Key“) in the field *„OTP-Schlüssel“*.
   - To distinguish between the different methods, enter a short description of the token at *„Beschreibung“* (optional).
   - Leave all other values unchanged.



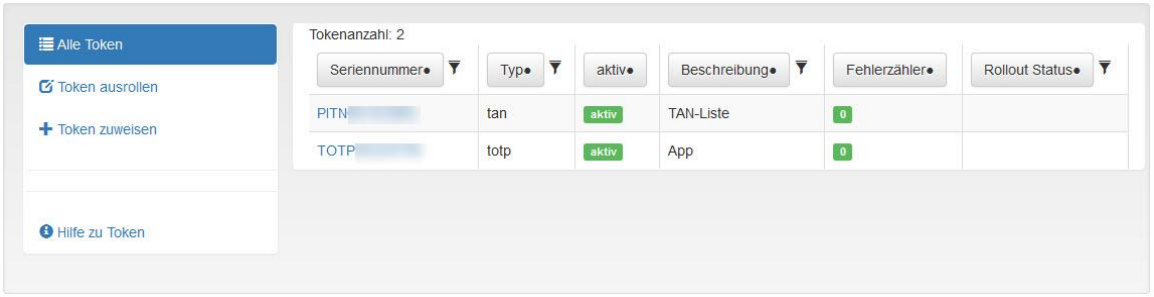


5. Click on *„Token ausrollen“*. Depending on the method selected, the setup is complete or you will be shown a QR code that you need to scan with your authenticator app or a TAN list (*„OTP-Werte“*) that you can now print out.

   Important: In all cases, this display cannot be called up again for security reasons. You must therefore scan the QR code directly or print out the list directly! Otherwise, you must roll out a new token and delete the old token if necessary.



6. At *„Alle Token“* you will find the tokens you have created so far and you can review the parameters for each token, reset the error counter, test the token or deactivate or reactivate it.



2.2 You are not connected to the university‘s network

In case you are unable to connect to the university‘s network (e.g. distance learning students, lecturers or during a stay abroad), there is also a solution.

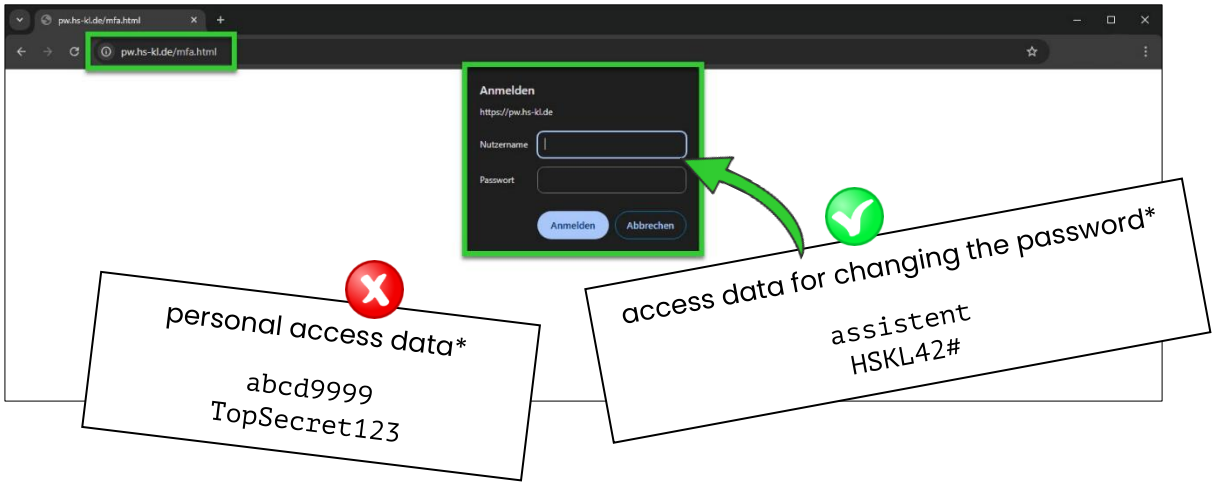
You will need:

- a so-called **one-time TAN** (a 24-digit code)
- the **access data for changing the password**
  (these are not your personal access data)

You will receive these data either at the beginning together with your personal access data or alternatively at the service points of the computer center and the IT representatives of your department*. In this case it is **necessary to verify your identity in a video meeting**. Otherwise, someone pretending to be you could cause a great deal of damage.

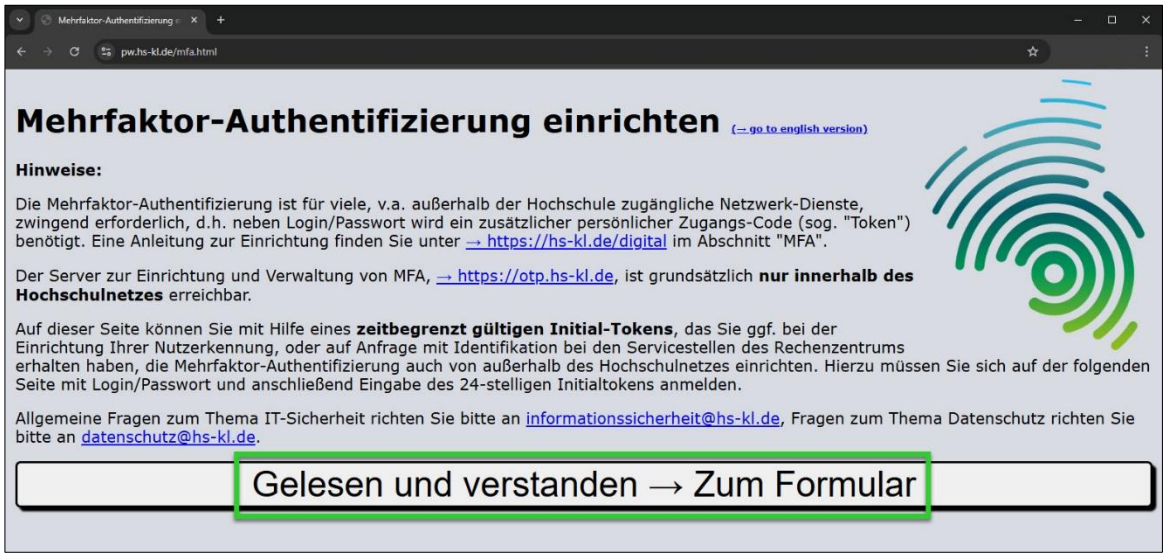
*: https://www.hs-kl.de/hochschule/servicestellen/rechenzentrum/support

1. Go to https://pw.hs-kl.de/mfa.html and log in with the access data for changing the password.

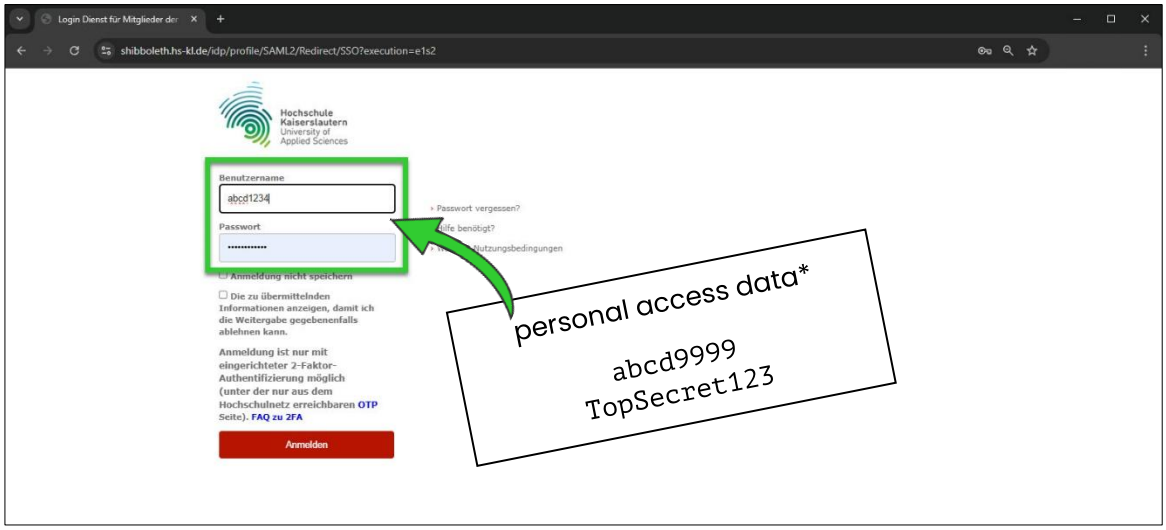


*: These are of course examples, not real access data ;-)

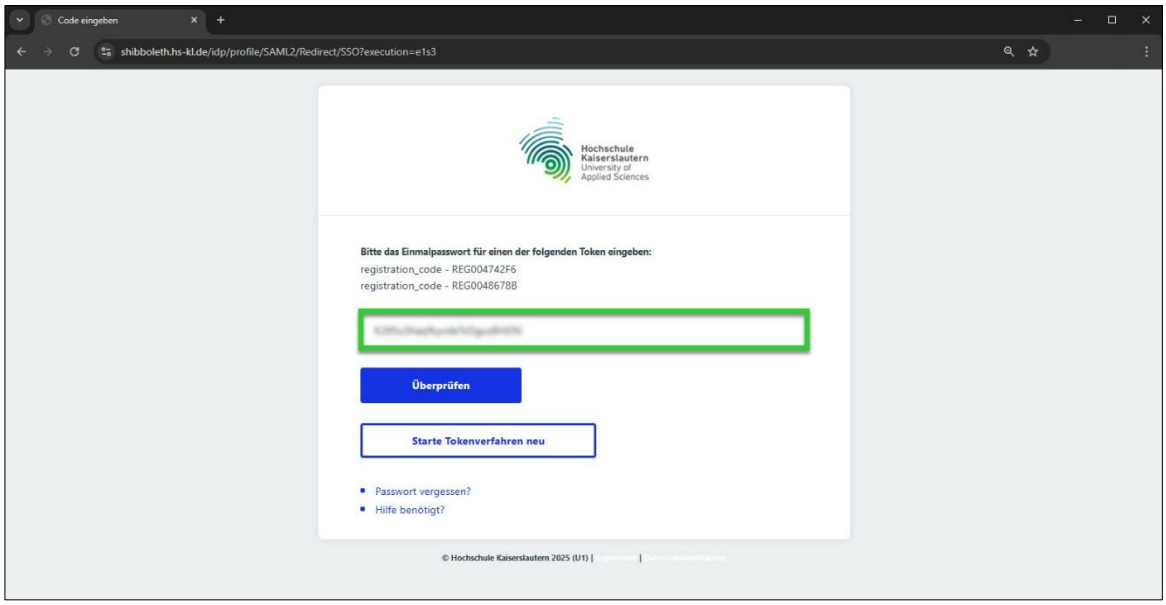
2. Read the text and then click on the button *„Gelesen und verstanden → Zum Formular“*.



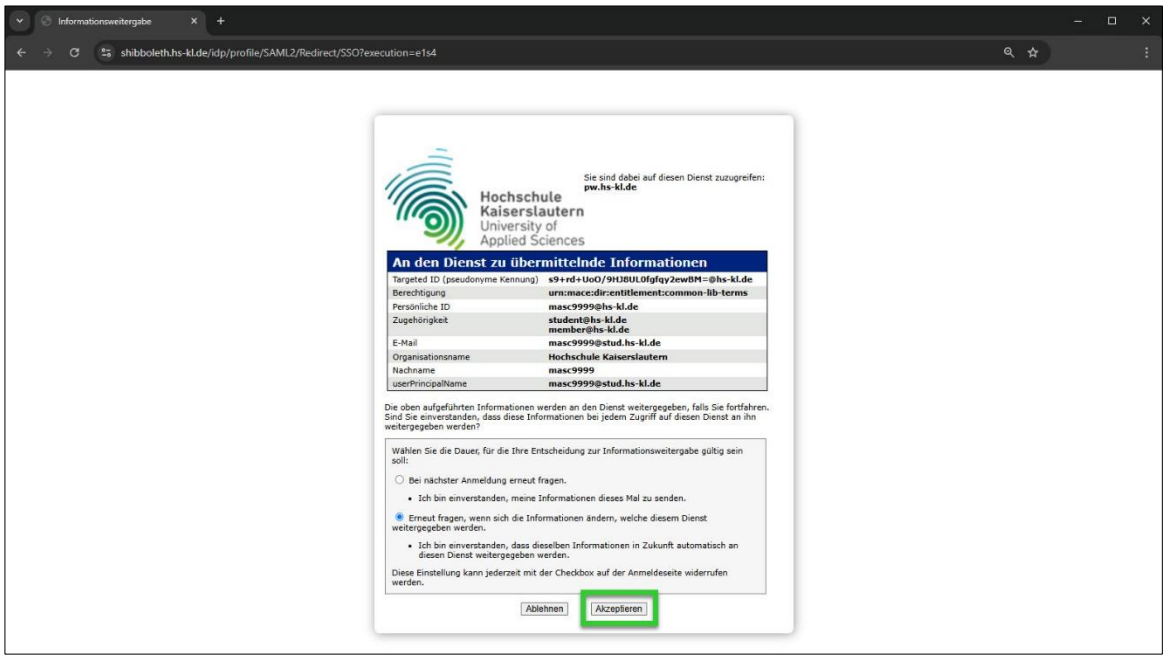
3. Enter your personal access data and click on *„Anmelden“*.



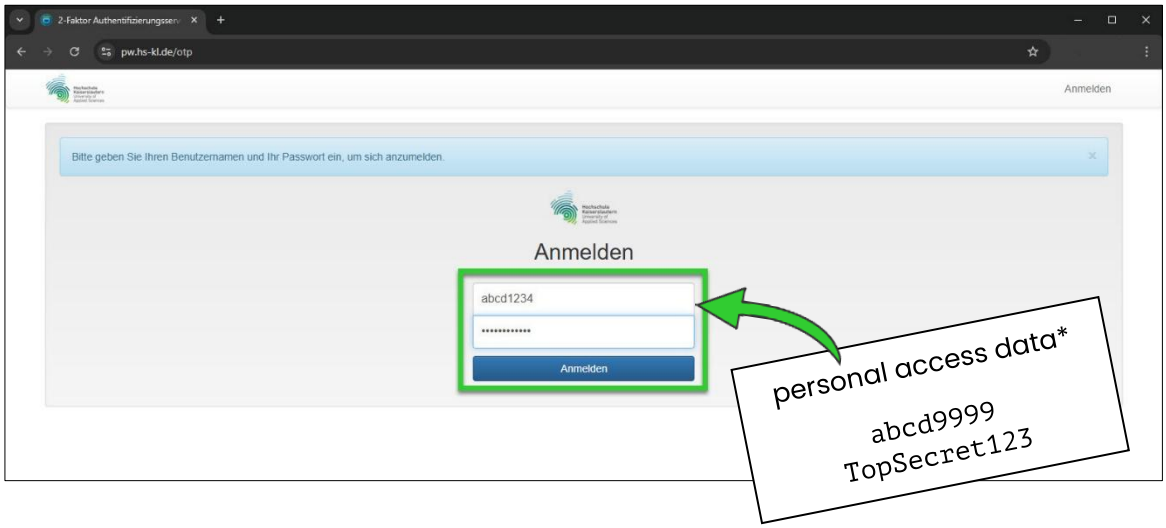
4. Now enter the 24-digit one-time token and click on „*Überprüfen*“.
   Note: The one-time TAN only works on this page!



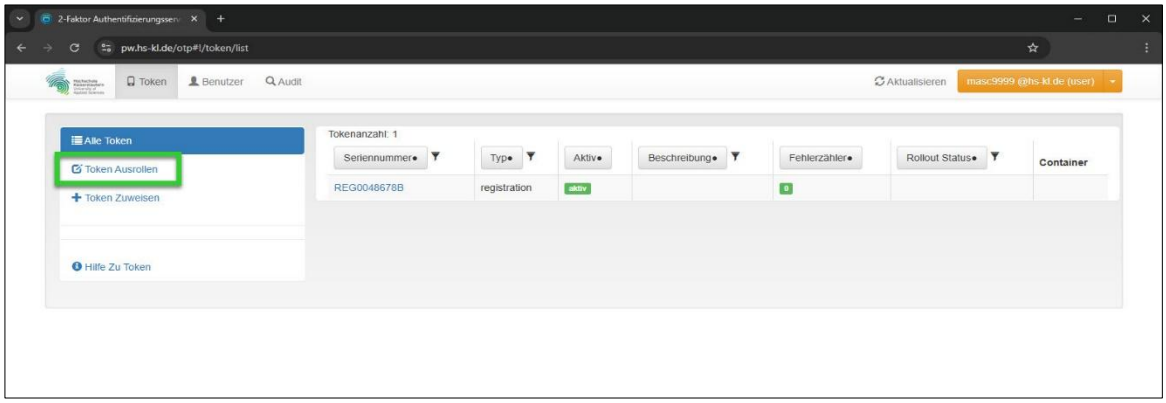
5. Confirm the transmission of your data with the button „*Akzeptieren*“.



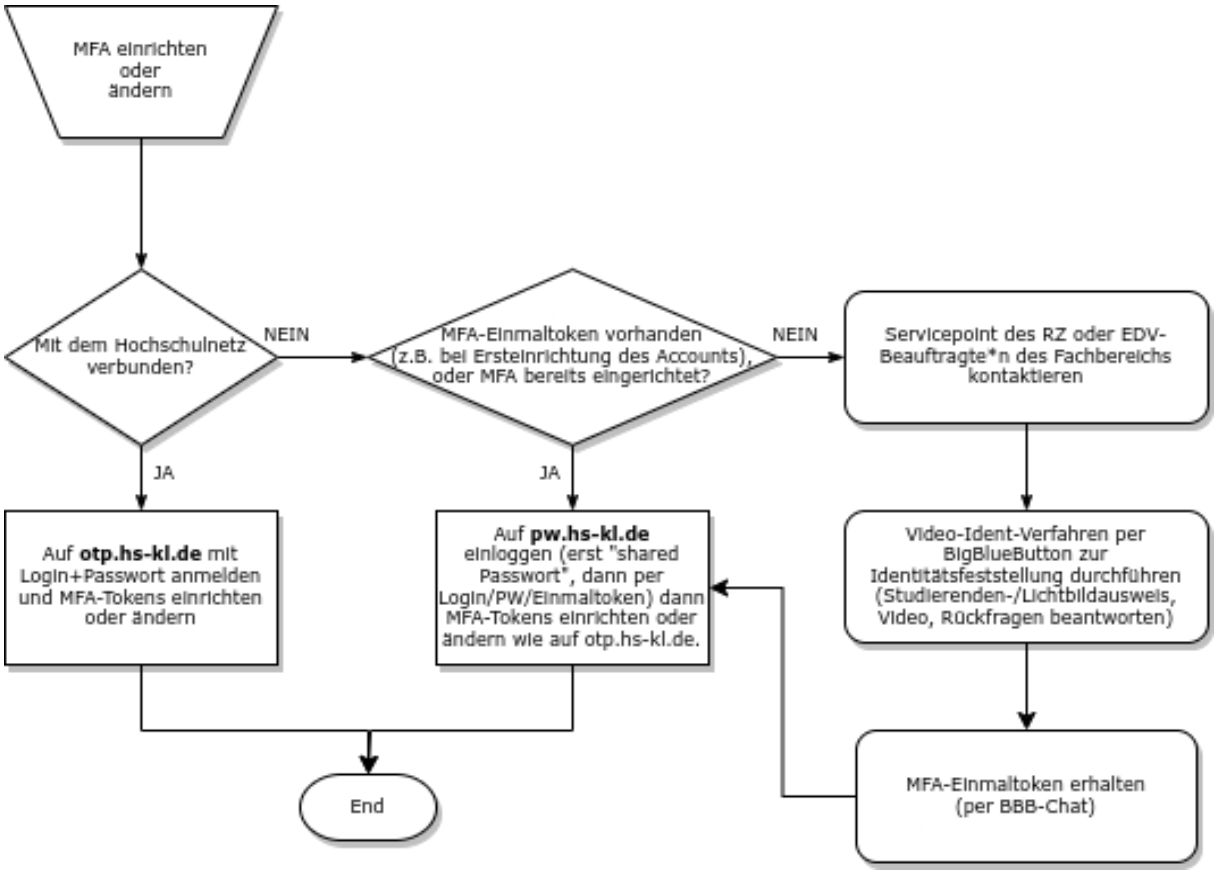
6. Enter your personal access data on this page as well and click on „*Anmelden*“.



7. You can now set up multifactor authentication as described in section 2.1 or edit existing MFA methods.



2.3 Diagram: Setting up or changing the MFA



3. Mehrfaktor-Authentifizierung nutzen

After setting up your MFA tokens, you will first be asked for your user name and HSKL password and then for the second factor (the code of one of your tokens) each time you log in to Shibboleth (e.g. OpenOlat, BigBlueButton, eduVPN, Campusboard, Seafile, Panopto or OWA). **If you have set up several tokens, it does not matter which code you use.**

When using the YubiKey, the code is automatically inserted into the field by pressing the *[Y]* button on the key. For all other methods, you must enter the code yourself.