Setup of the WLAN at DHBW-Karlsruhe

Content

1. General information about DHBW-KA and eduroam

The WLAN with SSID **DHBW-KA** is encrypted with WPA2 Enterprise and is only provided at DHBW Karlsruhe. Users are authenticated in the teaching domain dh-karlsruhe.de. An authentication with the administration account in the domain dhbw-karlsruhe.de or dhbw-karlsruhe.aa does not work.
The WLAN with the SSID "DHBW KA" is encrypted and should be used at the Duale Hochschule Baden-Württemberg Karlsruhe whenever possible.

SSID **eduroam** is available at many educational institutions worldwide and also in parts of Karlsruhe. The setup of this WLAN is identical to DHBW-KA. The user name must be specified in the form "user@dh-karlsruhe.de", whereby upper and lower case is important for the user. Of course eduroam is also encrypted with WPA2 Enterprise. A list of participating locations is available at https://map.eduroam.de.

At https://cat.eduroam.org you can download an installation file, which makes the secure setup of eduroam much easier for you. It is recommended to use this option. To do this, click on the button "Download your eduroam installation program" on the website and search for DHBW Karlsruhe. Usually you will be offered the appropriate installation program for your operating system, otherwise you can select it via the link "All Platforms".
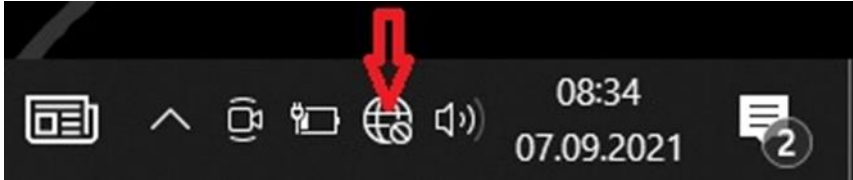
2. Prerequisites

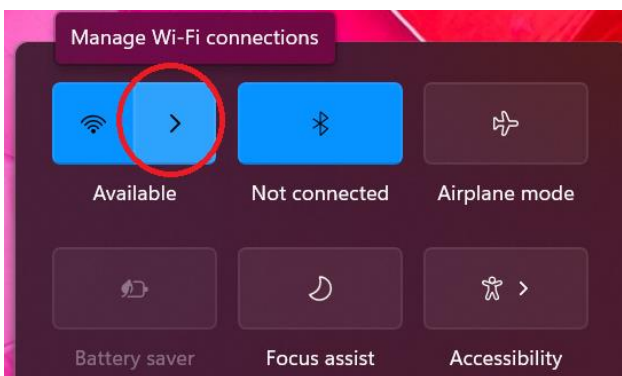Please make sure that your Wi-Fi connection assigns the IP address automatically via DHCP.
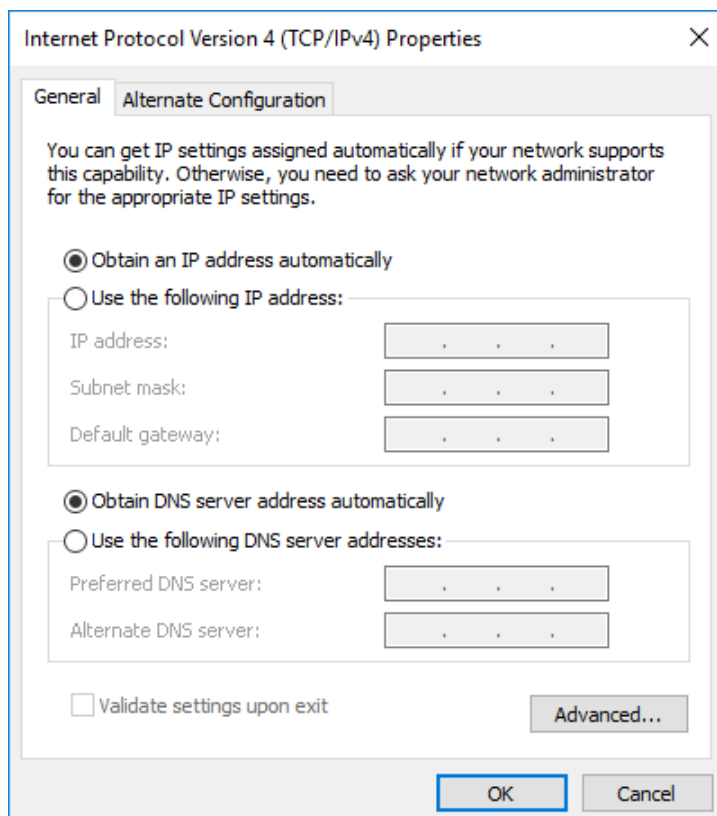
3. Setup on Windows 10

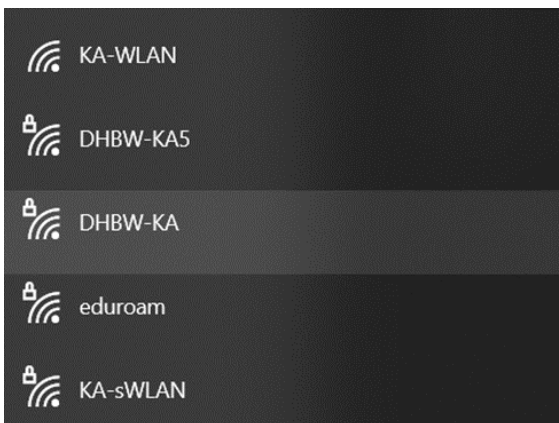To connect to the network please follow these instructions.

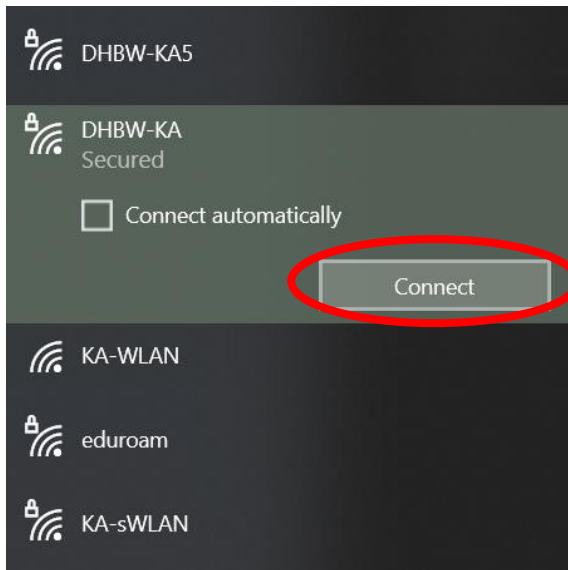Click on the network icon in the system tray:

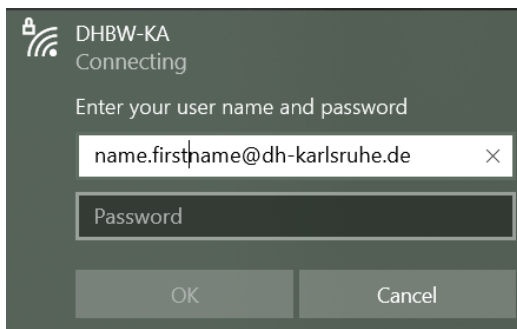With Windows 11 you have now to click the arrow next the WLAN Symbol:
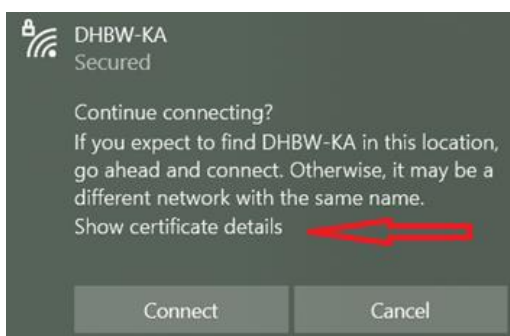

Select the DHBW-KA-network (or eduroam)

and click on „connect":

Enter your authentication information (name.firstname@dh-karslruhe.de) in the following screen and confirm it by clicking "OK".

Now verify the certificate details

Please ensure, the certificate thumbprint is one oft he following:

DHBW-KA
Secured

Continue connecting?
If you expect to find DHBW-KA in this location,
go ahead and connect. Otherwise, it may be a
different network with the same name.
Hide certificate details

Issued to: DE, Baden-Wuerttemberg, Karlsruhe,
Duale Hochschule Baden-Wuerttemberg,
freeradius2.dh-karlsruhe.de
Issued by: DFN-Verein Global Issuing CA
Server thumbprint: 81 06 07 B6 26 C4 EC AE 63
32 C8 CC F3 DA F4 90 14 27 CA 81

Connect   Cancel

Issued to: DE, Baden-Wuerttemberg, Karlsruhe,
Duale Hochschule Baden-Wuerttemberg,
freeradius.dh-karlsruhe.de
Issued by: DFN-Verein Global Issuing CA
Server thumbprint: B3 54 50 E4 63 CD 7D 75 FE
1F CE 0B A0 1F D2 0E E9 CA 02 AF

Issued to: DE, Baden-Wuerttemberg, Karlsruhe,
Duale Hochschule Baden-Wuerttemberg,
aragorn.dh-karlsruhe.de
Issued by: DFN-Verein Global Issuing CA
Server thumbprint: 6C 37 21 F8 F5 FA 9F 2A 7A
28 5A F1 67 76 59 EC 01 CF 44 FA

Issued to: DE, Baden-Wuerttemberg, Karlsruhe,
Duale Hochschule Baden-Wuerttemberg,
bilbo.dh-karlsruhe.de
Issued by: DFN-Verein Global Issuing CA
Server thumbprint: 7E 29 9C E0 21 65 57 BA 21
74 B1 82 ED E4 CD F7 6F 04 8B 1A

The certificates are changed regularly, please use the latest version of this instruction.
After clicking on "Connect" you should be connected to the WLAN.

DHBW-KA
Connected, secured

Properties

Disconnect
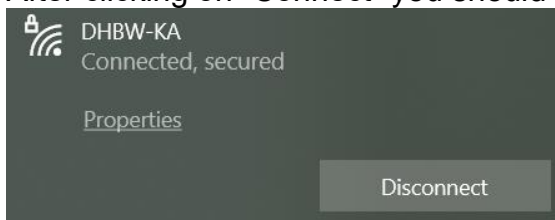
4. Setup on Windows 8.1

If you are still using Windows 8, please upgrade to Windows 8.1 or later. Windows 8
is out of date.

Connect to the wireless network as follows:

Move your mouse to the bottom right corner of your screen and then move the mouse
pointer to Settings. Then click on the left icon in the top row, where stock is available.
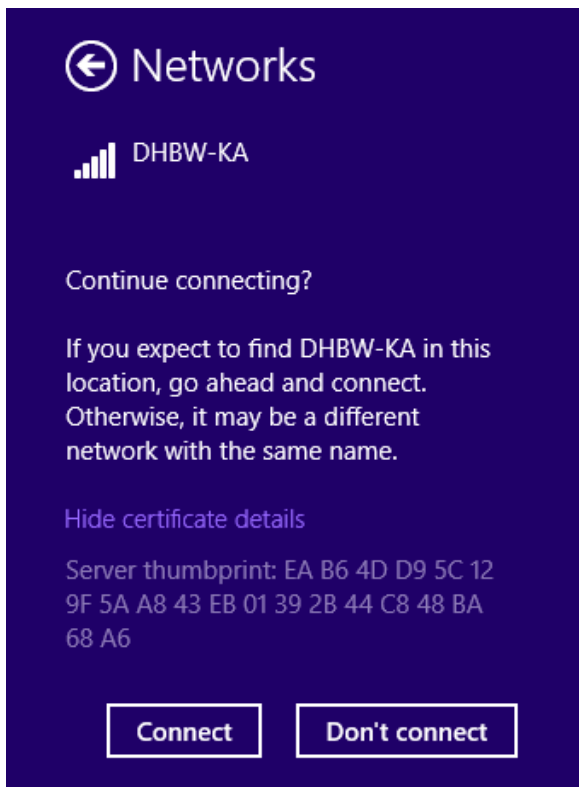A list of available wireless networks will be displayed.
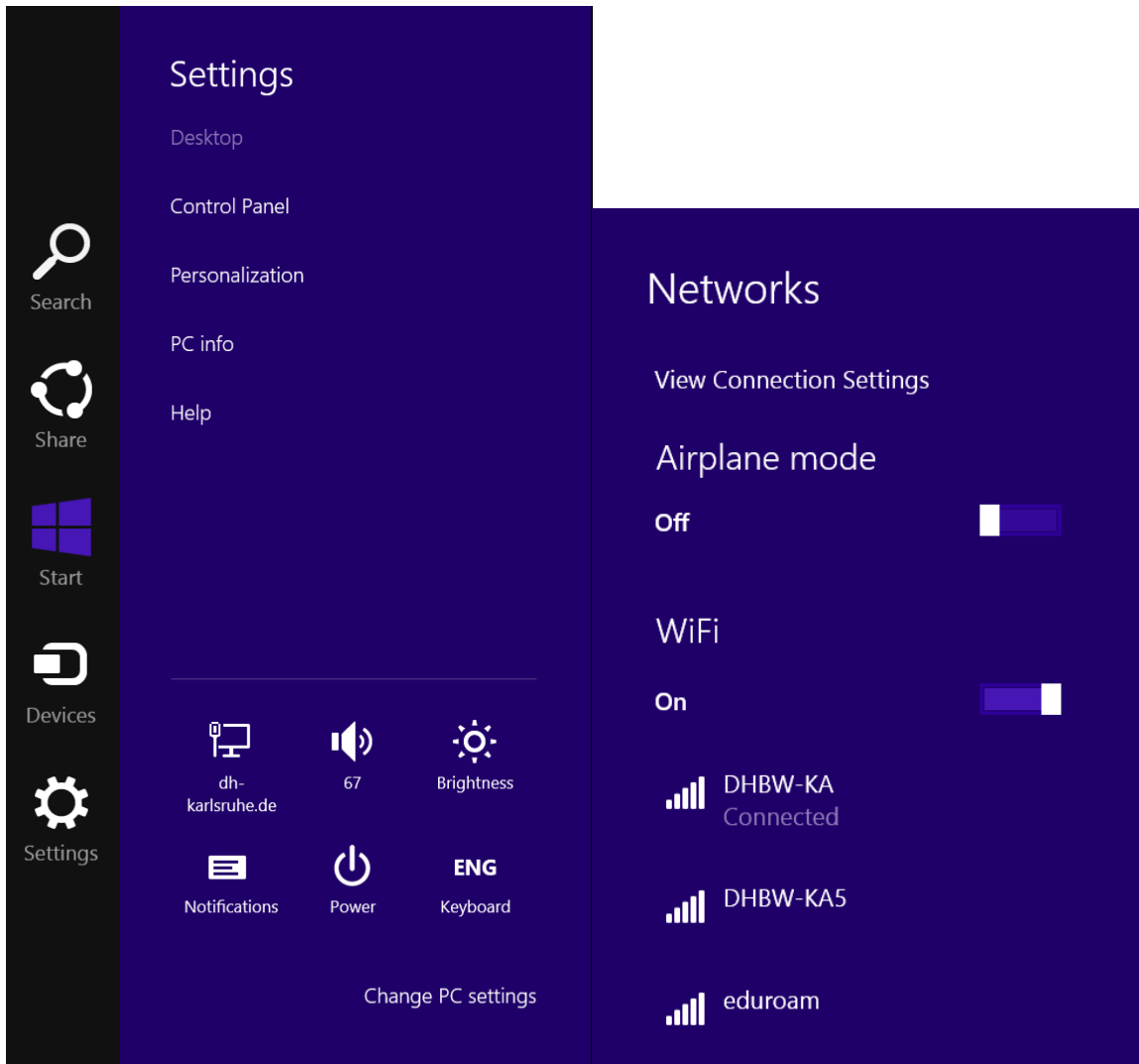
Click DHBW KA (eduroam works the same way), then click Connect.
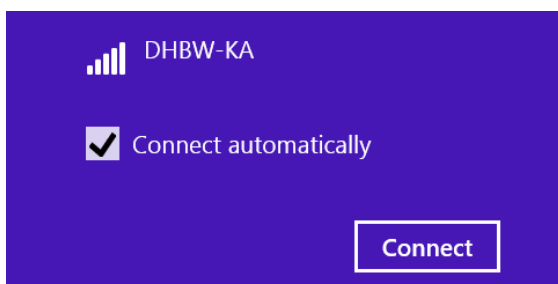
In the following screen, enter your authentication information.
After clicking "OK" you should be connected to the Wi-Fi.
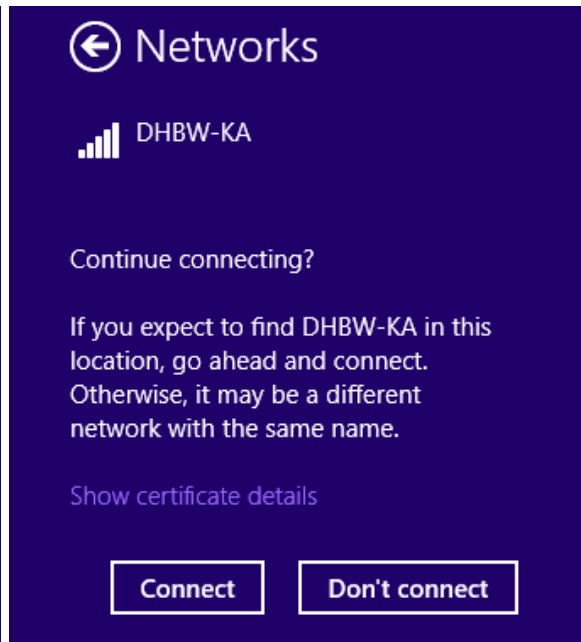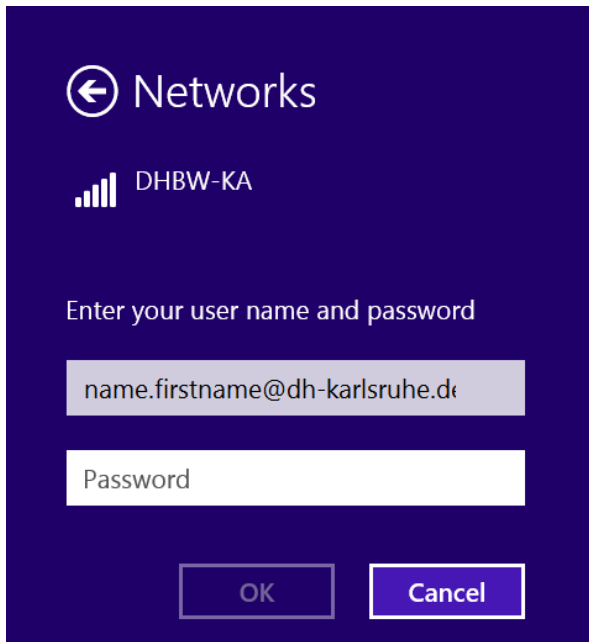
Display the certificate details

Valid Fingerprints are as follows:

```
81 06 07 B6 26 C4 EC AE 63 32 C8 CC F3 DA F4 90 14 27 CA 81
B3 54 50 E4 63 CD 7D 75 FE 1F CE 0B A0 1F D2 0E E9 CA 02 AF
6C 37 21 F8 F5 FA 9F 2A 7A 28 5A F1 67 76 59 EC 01 CF 44 FA
7E 29 9C E0 21 65 57 BA 21 74 B1 82 ED E4 CD F7 6F 04 8B 1A
```

With this check, you prevent an unauthorized third-party server from intercepting your authentication data and subsequently misusing it. If there is one of these fingerprints, so you can connect to "connect" to the WLAN. During the initial setup, it might be possible that you will be requested to confirm the certificate " T-Telesec Global Root Class 2".
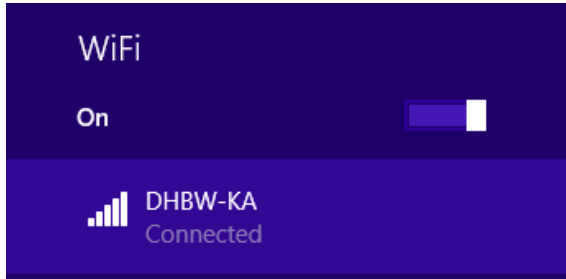
5. Windows 7 and older Versions

Windows 7 and older versions of Microsoft Windows like Windows Vista and Windows XP are obsolete and no longer supported. It is not allowed to connect devices with this old versions of Windows with the Network of the DHBW Karlsruhe.

6. Setup on Linux

Unfortunately, not all Linux variants can be dealt with here. With the following information, you can use the DHBW-KA Wi-Fi.

SSID: DHBW-KA
Encryption: WPA / TKIP or WPA2 / AES
Authentication: PEAP with MSCHAP v2
Authentication authority of the certificate: T-Telesec Global Root Class 2
Authentication data: your user from the domain dh-karlsruhe
IP configuration automatically via DHCP

The example looks like this:

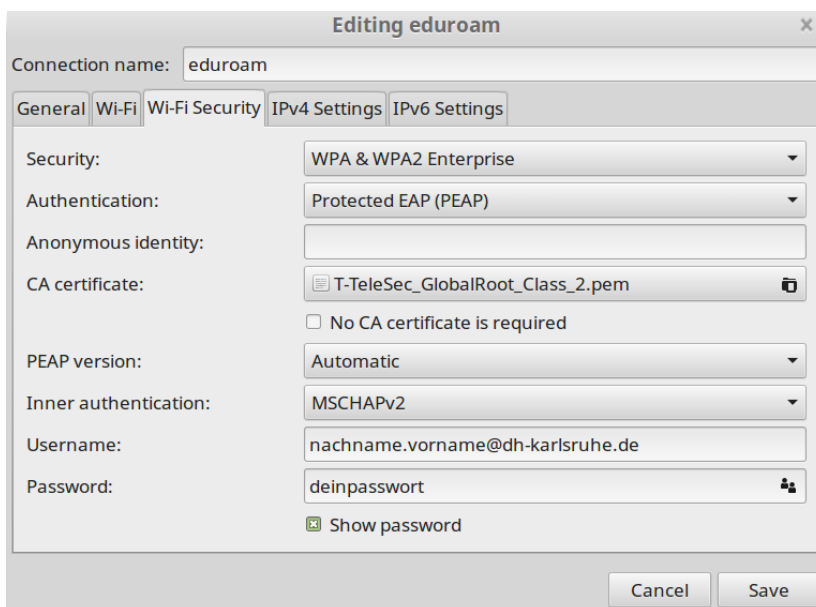Open Network Connections and add a new connection:
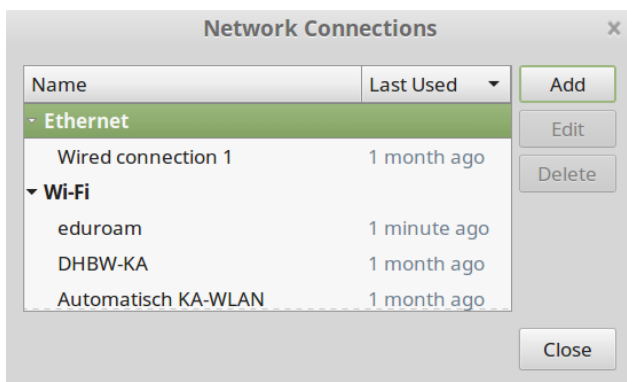
Choose type Wi-Fi
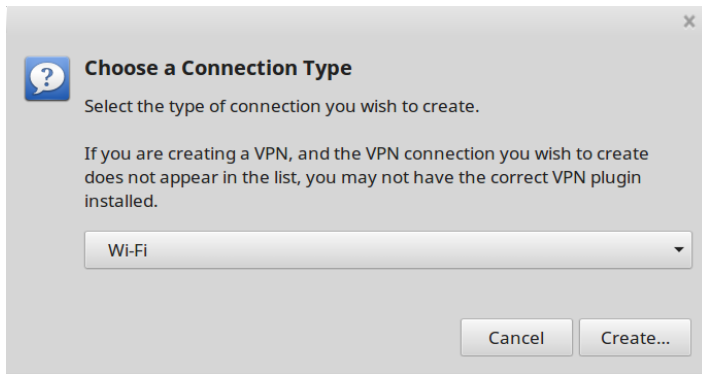
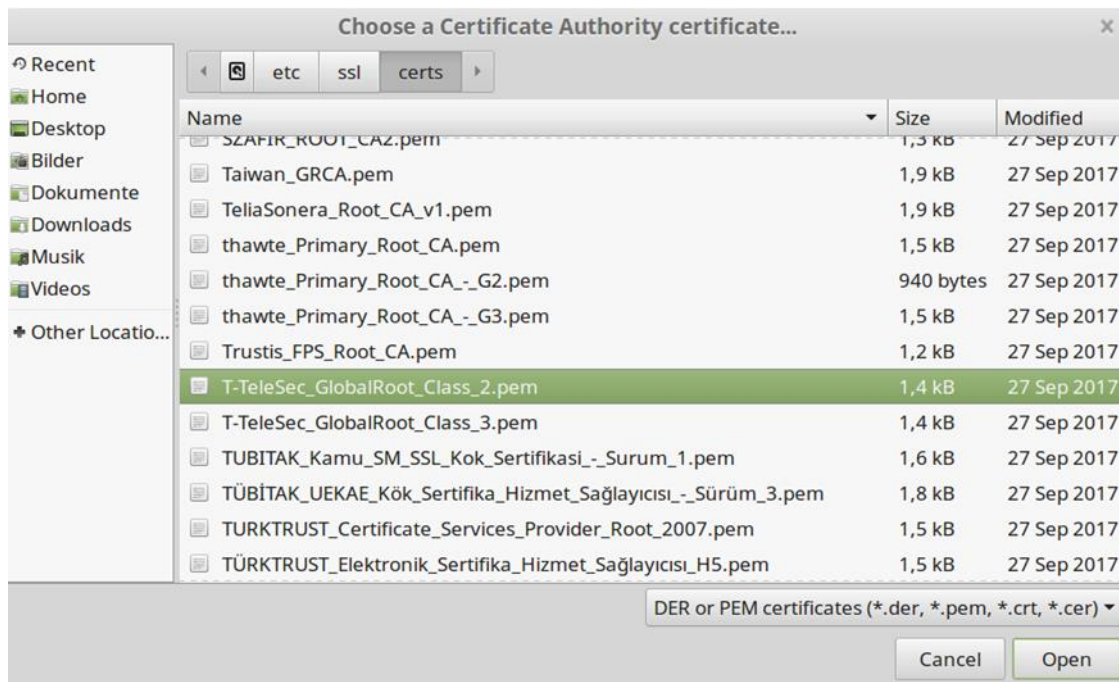Name: eduroam, SSID: eduroam, Mode: Client, Device: your Wi-Fi Connector
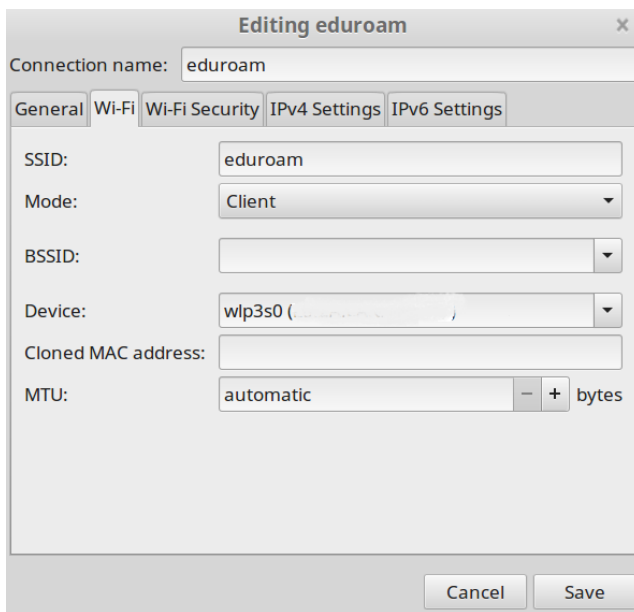
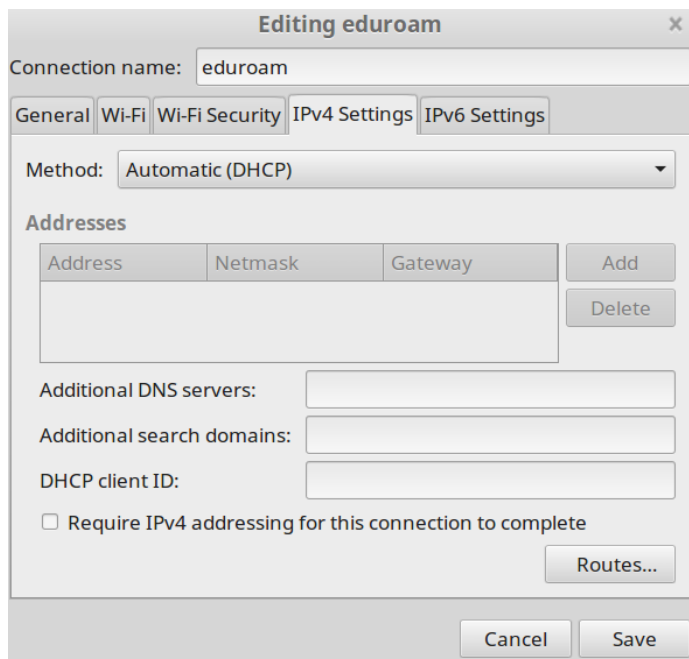In the Wi-Fi Security tab, fill in the fields as shown below:

Instead of "name.firstname@dh-karlsruhe.de" enter your own account data.

The certificates are often located at /etc/ssl/certs

Set the method IPv4 Settings Automatic (DHCP) at the IPv4 Settings.


Save now and Connect.

7. Setup on Android

9.1 Android up to version 6

First install the root certificate of T-Telesec GlobalRoot Class 2 under https://www.pki.dfn.de/fileadmin/PKI/zertifikate/T-TeleSec_GlobalRoot_Class_2.crt or scan this QR code: (Attention, with some devices, e.g. from the manufacturer Samsung, some screen unlocking methods, such as patterns or fingerprints, will then no longer work, as the manufacturer of the smartphone classifies them as unsafe.)
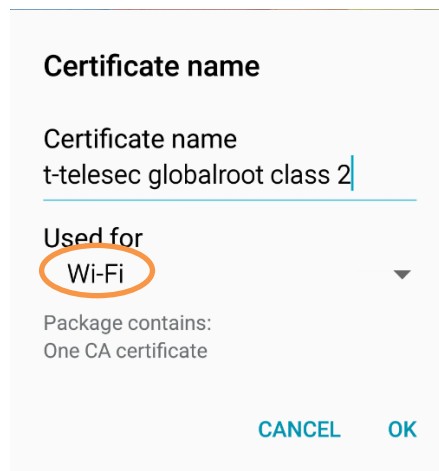

Open the apps, go to settings
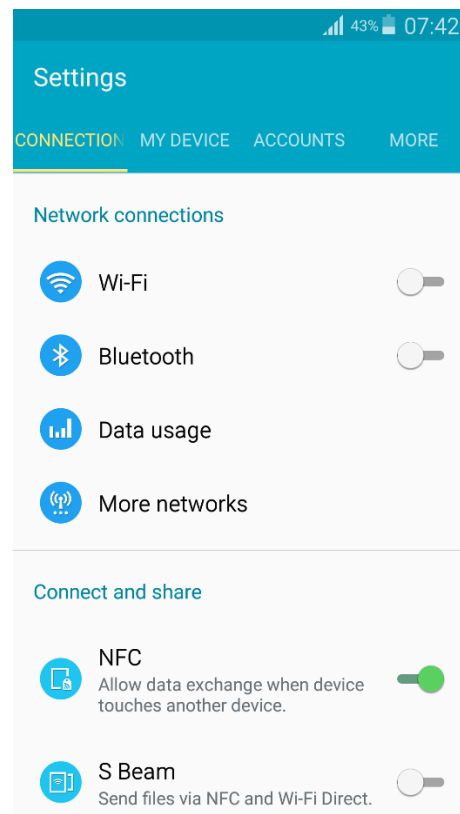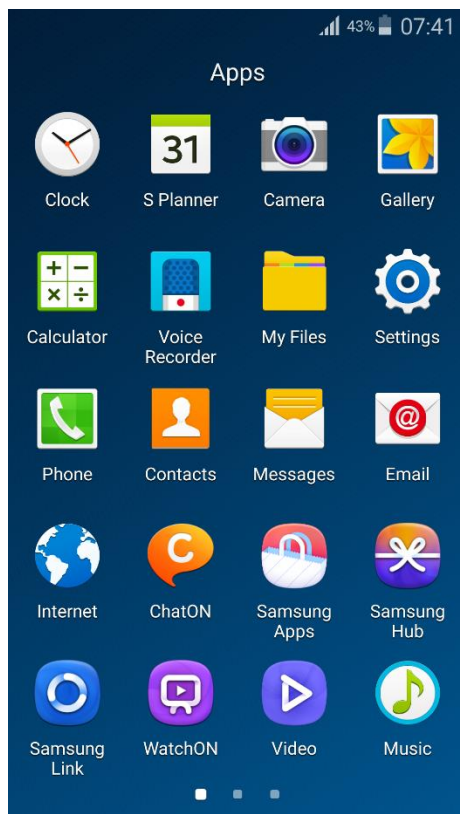
There, tap Wireless & networks
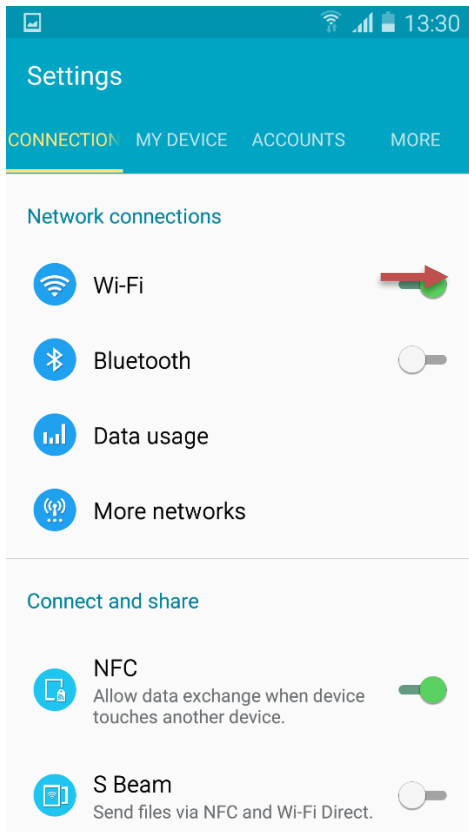
Swipe to activate Wi-Fi and then go to Wi-Fi settings.
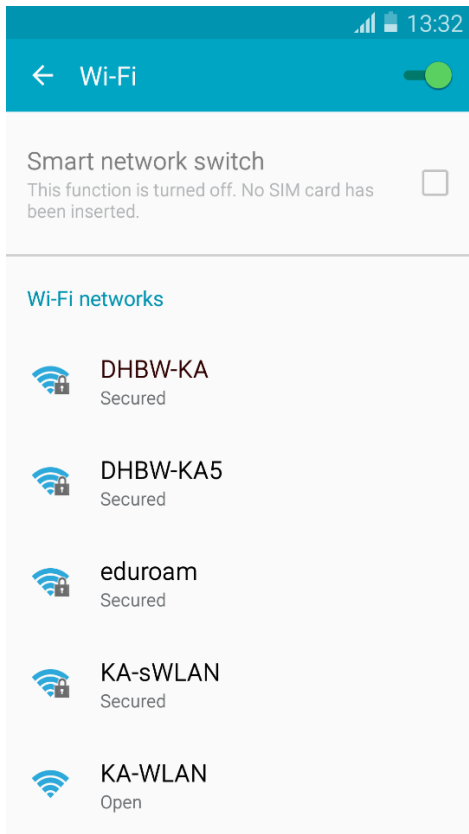
Now tap on the network you want (eduroam or DHBW-KA) and then the profile features as shown.
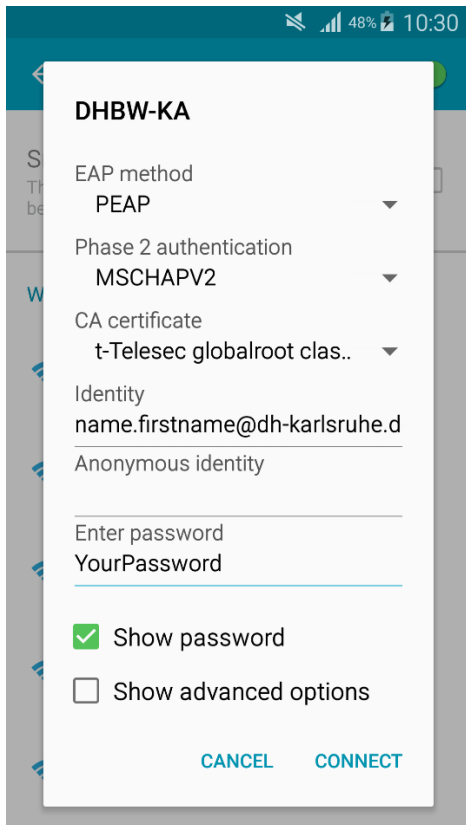
Instead of "name.firstname@dh-karlsruhe.de" you have to use your own user name in the domain "dh-karlsruhe" of course. After that tap Connect and you should be connected to the desired network.
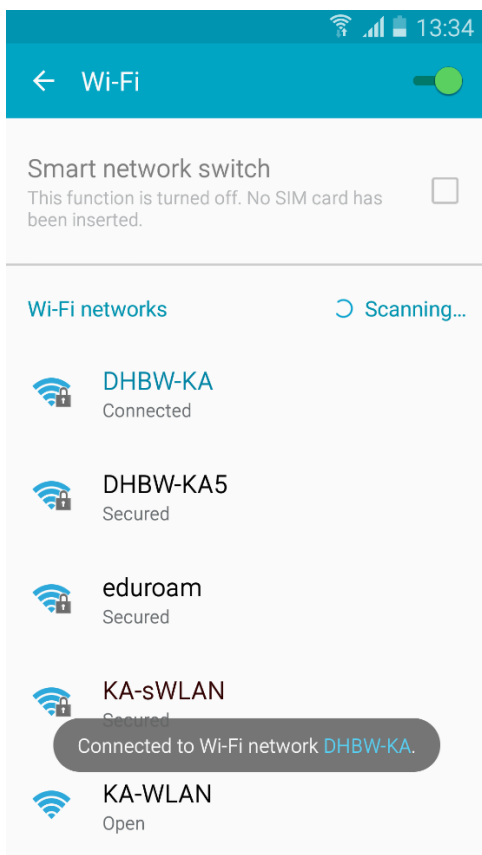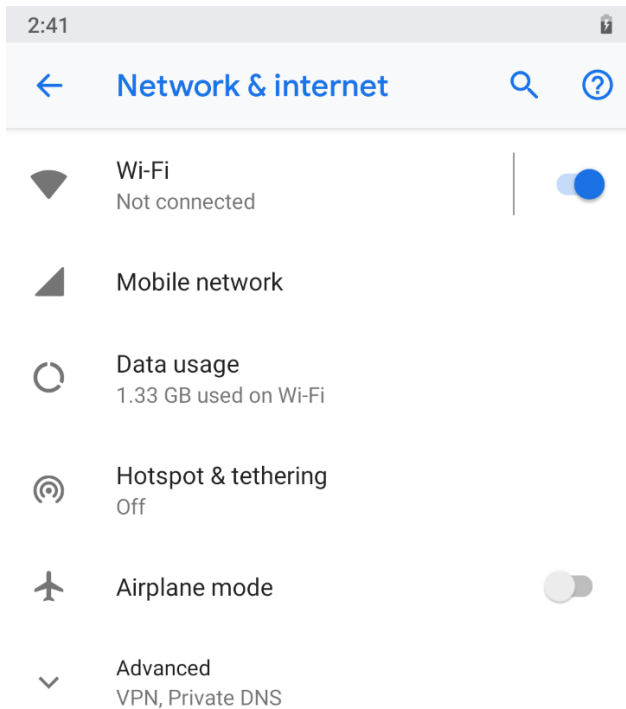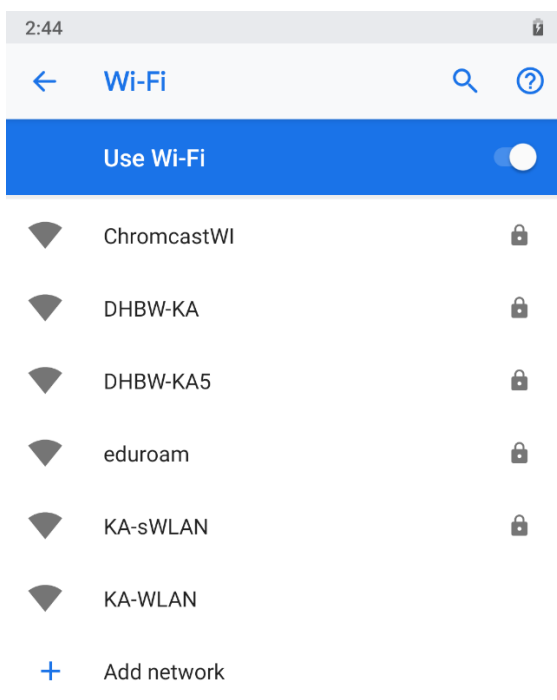
9.2 Android from version 7.0

Since Version 7 Android allows the usage of the installed system certificates. You don´t need to install the certificate separately.
Proceed as follows:

Open the settings for Network & internet

Wi-Fi

Make sure that the WLAN is switched on. Tap DHBW-KA or eduroam and fill in the form as shown in the next picture.
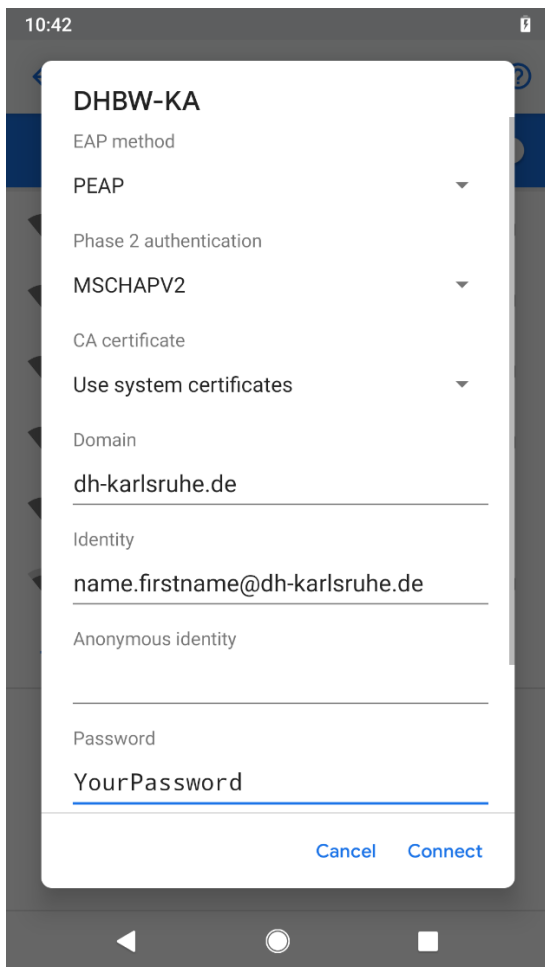
Instead of **name.surname** you have to enter your own username. Now tap connect.
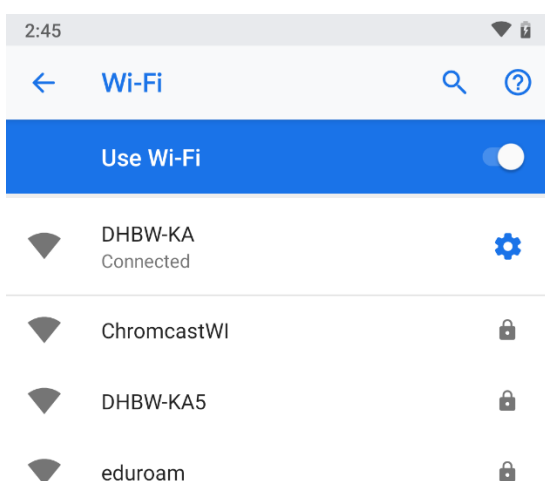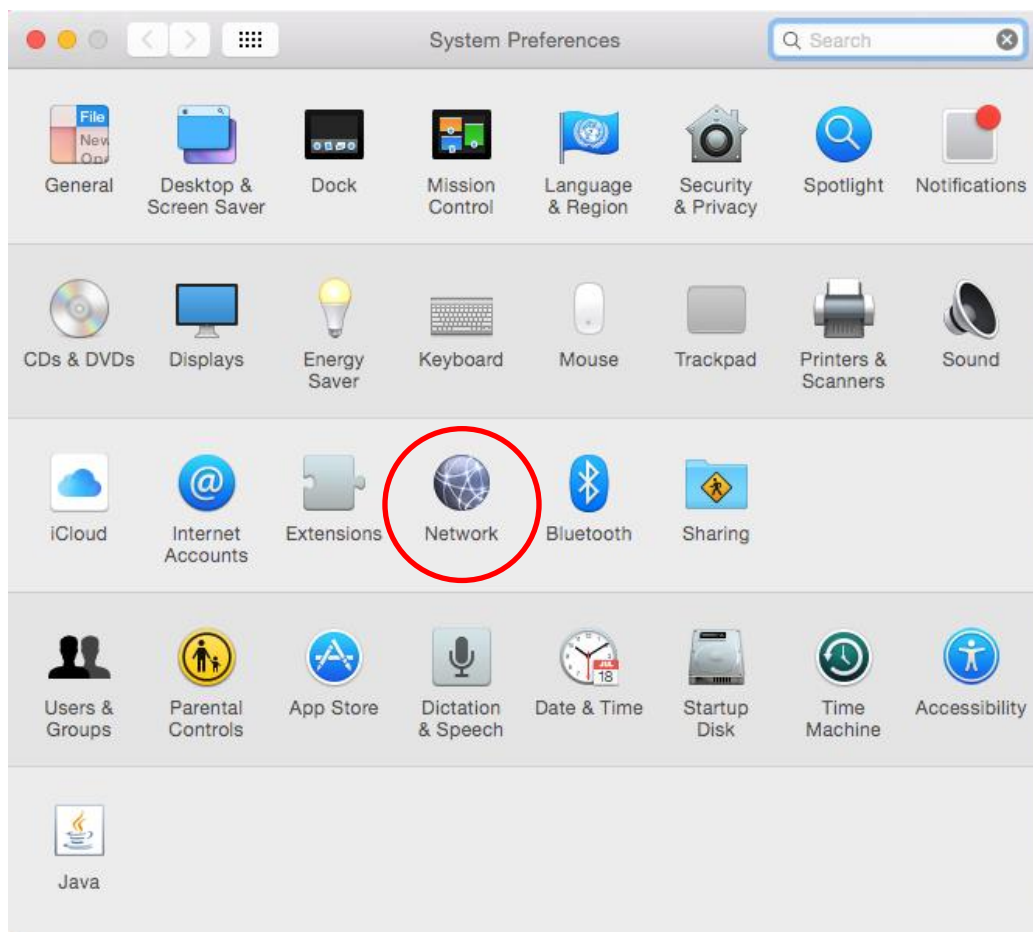

If you do not have the setting option "Use system certificates" on your device, please proceed as described under "Android up to version 6". For eduroam you can use the app eduroamCAT from the Google Play Store.
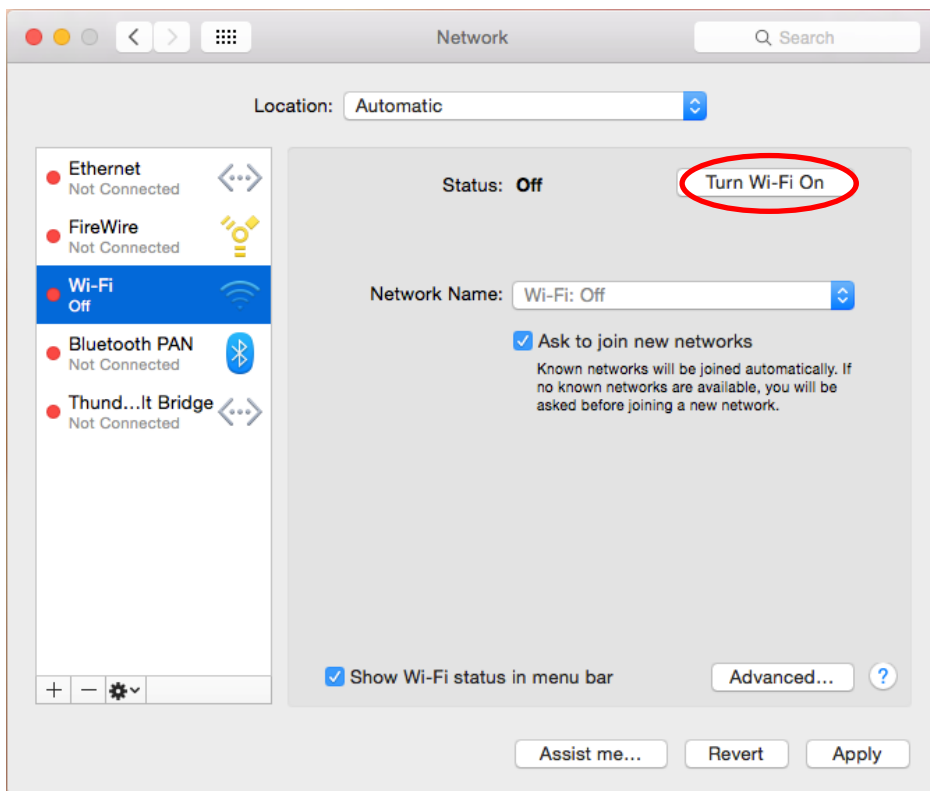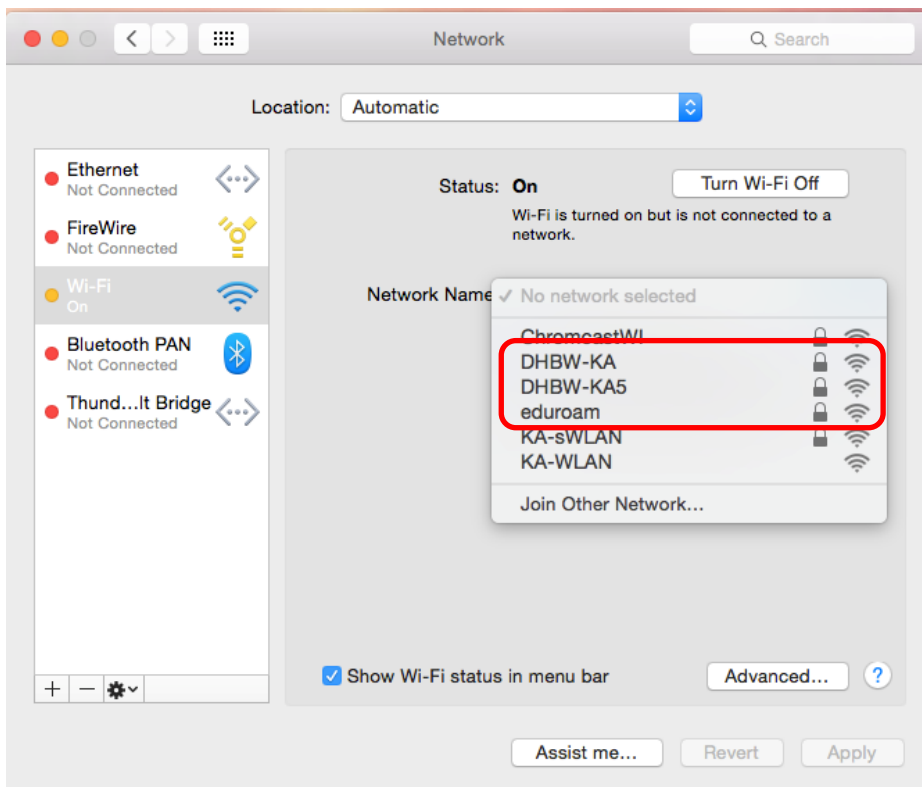
8. Mac OS

To install Wi-Fi on a MacBook click on System preferences
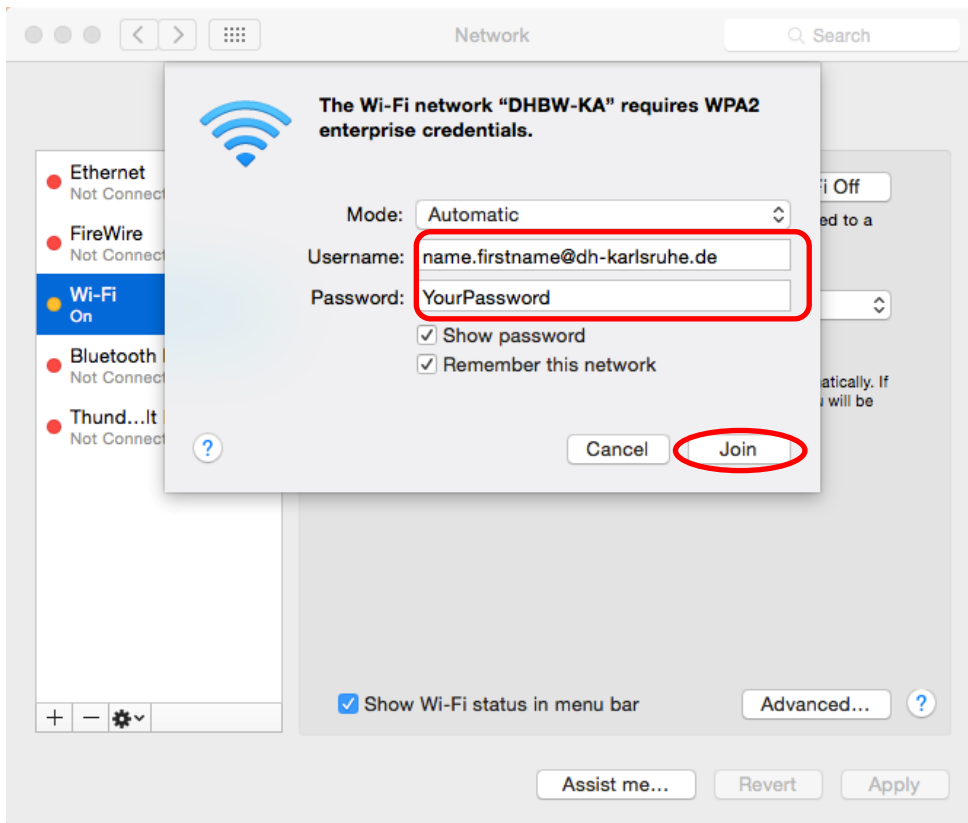

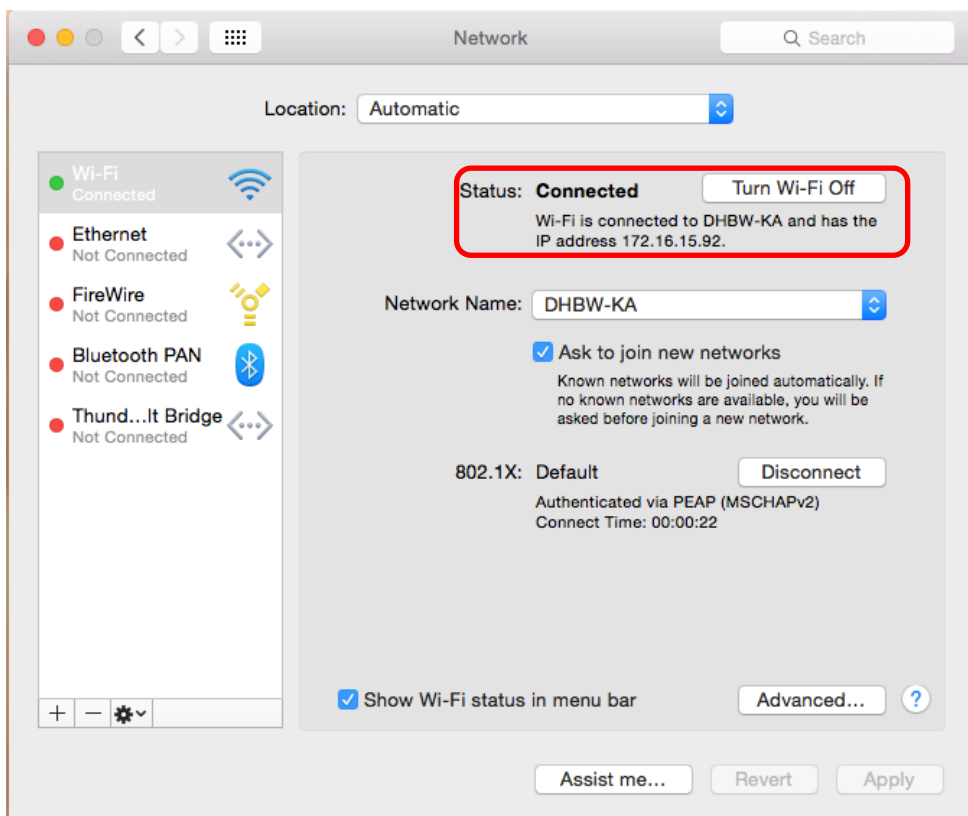then on the Network-icon:

Turn on the Wi-Fi.

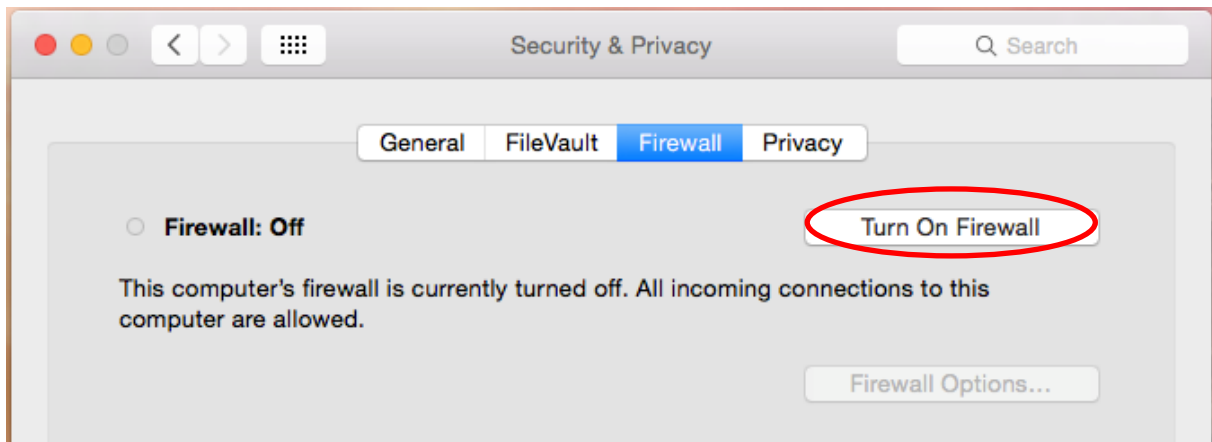Now you have to select your network (DHBW-KA or eduroam):

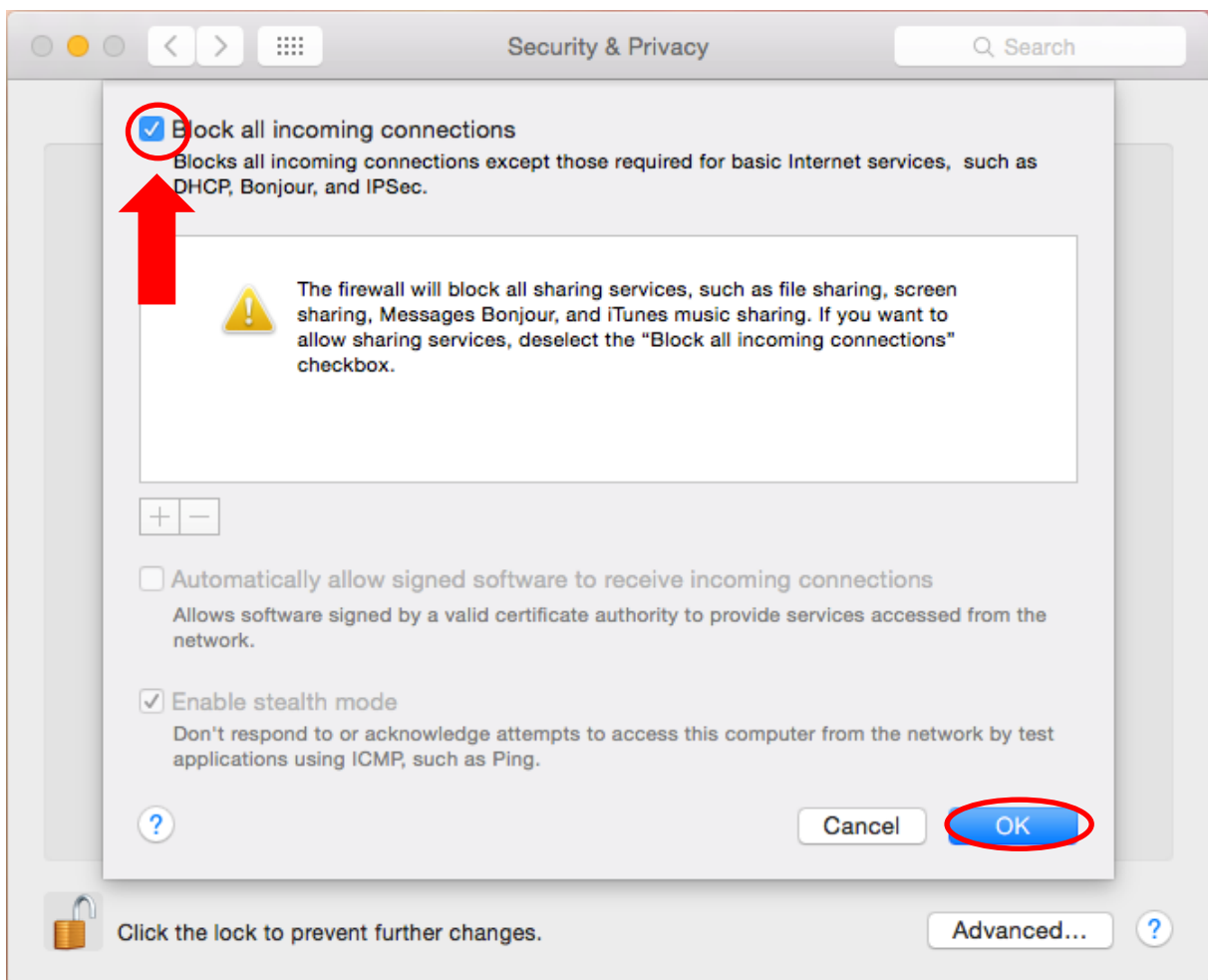Enter your Authentication Information as follow:

Proceed with clicking the button "Join" for connecting with the Wi-Fi.

It's recommended to turn on your firewall and block incoming connections if you don't want to share data with other Wi-Fi users.
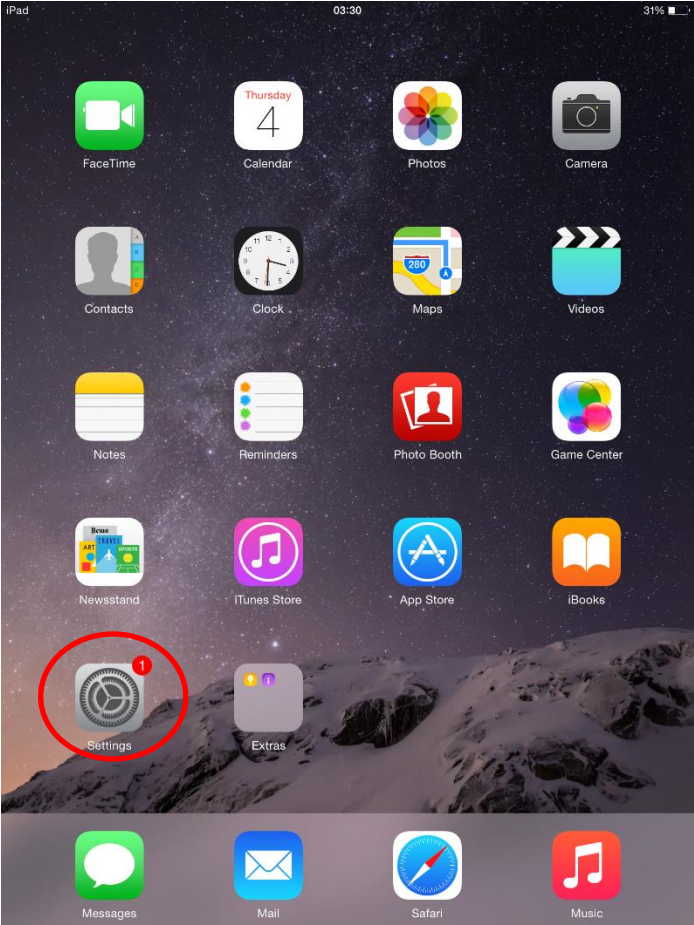

In the Firewall Options check the Box "Block all incoming connections" and confirm this by clicking the "OK" button.
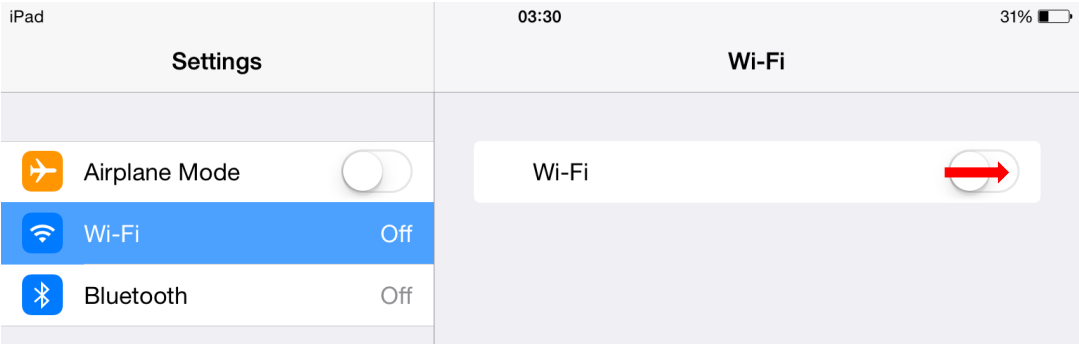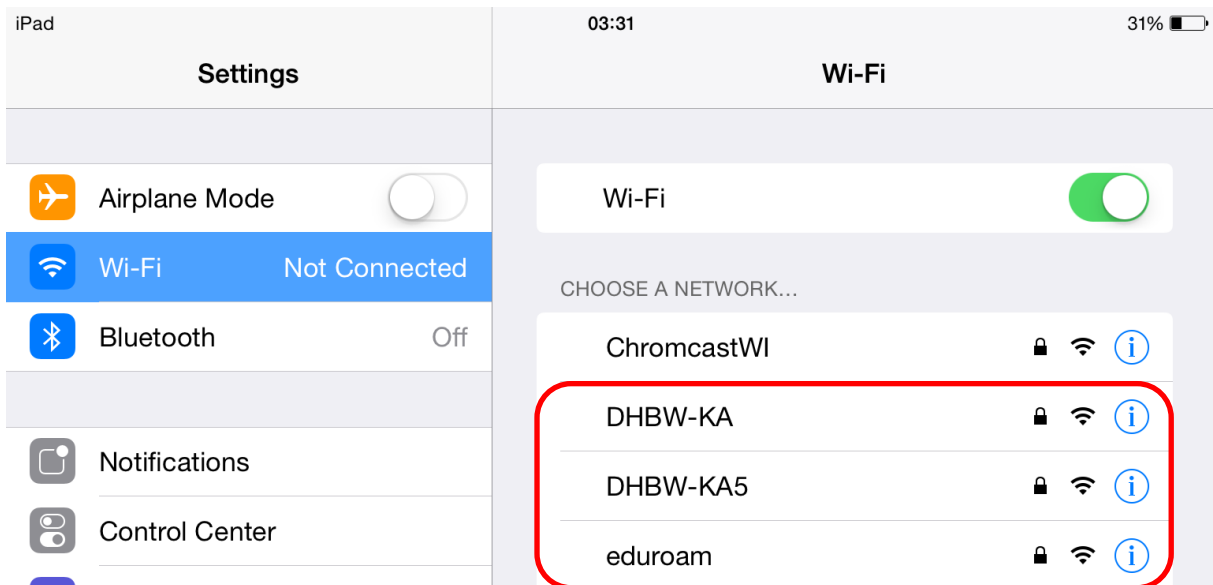
9. iOS

To connect your iPad or iPhone to the Wi-Fi go to the system preferences.
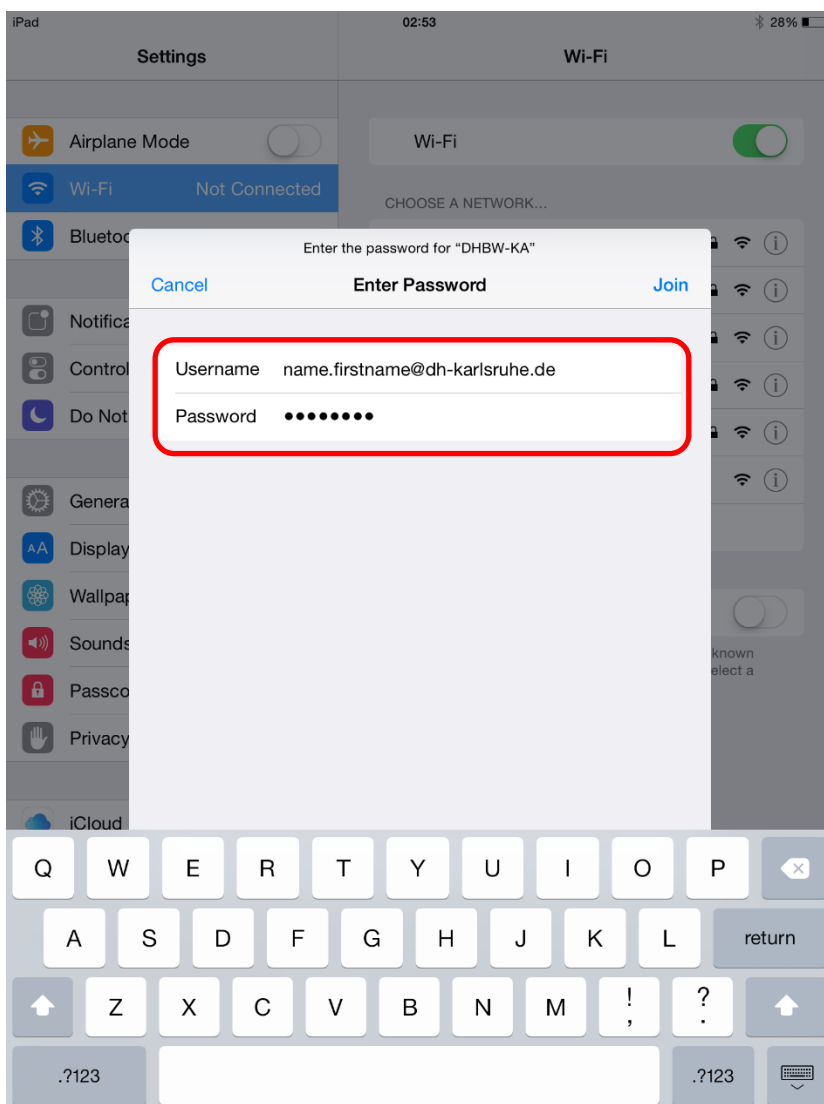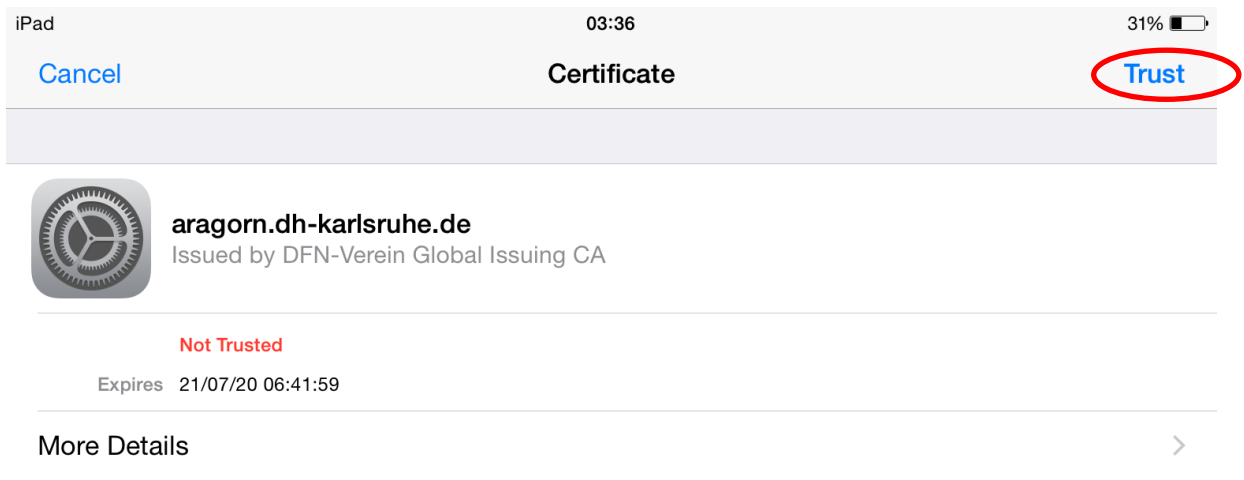

and turn on the Wi-Fi.

Now select the network (DHBW-KA or eduroam)

and enter your authentication Information as follows:

After clicking on "Join" you have to confirm the certification:

After that you are connected to the Wi-Fi.