

Methods for Using 802.1X Authentication on the BIMSA's Internal Wired Network

I、 Purpose of Authentication

To ensure the security of the company's internal wired network, standardize network access management, and prevent security risks such as information leakage and network attacks caused by unauthorized device access, the company's internal wired network adopts 802.1X authentication for access control. All employees must complete 802.1X authentication using valid account credentials to normally use internal wired network resources.

II、 Scope of Application

These methods apply to all company employees and authorized personnel accessing the company's internal wired network, covering all wired network access points in the company's office areas, meeting rooms, computer rooms, and other locations.

III、 Prerequisites

1. ****Device Requirements****: Desktop computers or laptop computers;
2. ****Account Information****: Log in using your LDAP account and password (the LDAP account is the email and password used for connecting to the eduroam network). If you forget your password, you can reset it yourself via the link <https://id.bimsa.cn/> or contact the IT Department's operation and maintenance personnel for assistance.
3. ****Hardware Connection****: Insert one end of the network cable into the wired network card interface of your office computer, and the other end into the corresponding network socket in the office area (ensure the network cable is securely connected with no loose interfaces).

IV、 Authentication Operation Steps for Different Operating Systems

(1) Windows 10/11 Systems

1. 1Authentication Settings:

1.1.1 The Windows system requires the "Wired AutoConfig" service to be enabled

(Download link: [Windows](#)) . Save the "StartWiredAutoConfig.bat" script to the computer desktop or another folder, locate the saved script file, right-click it and select "Run as administrator", then simply press Enter to let the script run automatically; as shown below:



StartWiredAuto
Config.bat

```
C:\Windows\System32\cmd.exe

C:\Users\BIMSA\Desktop>echo.

C:\Users\BIMSA\Desktop>fltmc 1>nul 2>&1 || (
echo Please run this script as an administrator.!
pause 1>nul
exit /b 1
)

C:\Users\BIMSA\Desktop>set "SERVICE_NAME=Dot3Svc"

C:\Users\BIMSA\Desktop>echo Checking is in progress Dot3Svc Service Status...
Checking is in progress Dot3Svc Service Status...

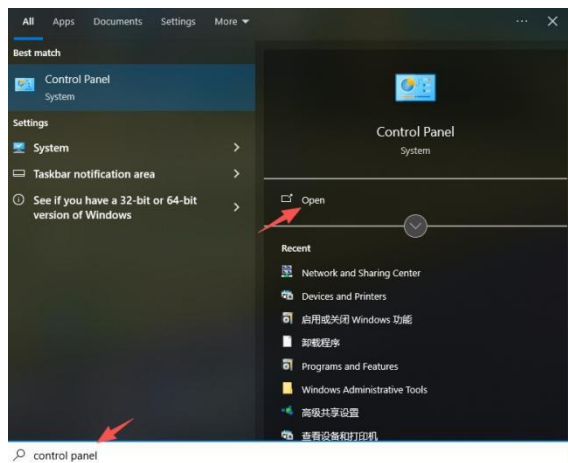
C:\Users\BIMSA\Desktop>sc query "Dot3Svc" | findstr /i "RUNNING" 1>nul

C:\Users\BIMSA\Desktop>if 1 EQU 0 (echo The service is currently running.! ) else (
echo The service is not running and is starting up...
sc start "Dot3Svc" 1>nul
if 1 EQU 0 (echo Service started successfully! ) else (
echo Service startup failed. Please check if the service exists or if the permissions are sufficient.!
pause 1>nul
exit /b 1
)
The service is not running and is starting up...
Service startup failed. Please check if the service exists or if the permissions are sufficient.!
```

Click Enter and the script will
run automatically.

1.1.2 Configure the Network Card:

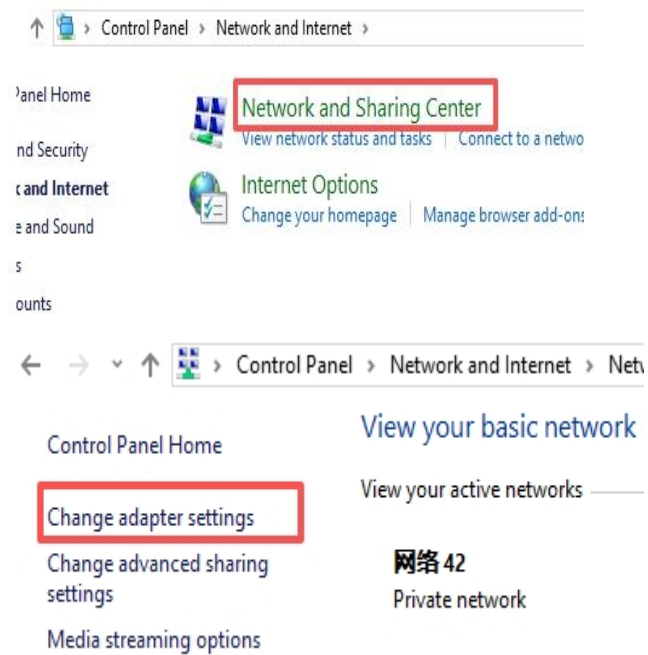
Navigate to "Control Panel - Network and Internet - Network and Sharing Center -
Change adapter settings - Ethernet";



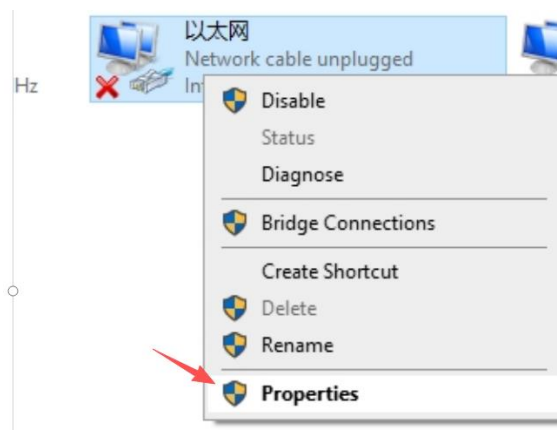
Control Panel

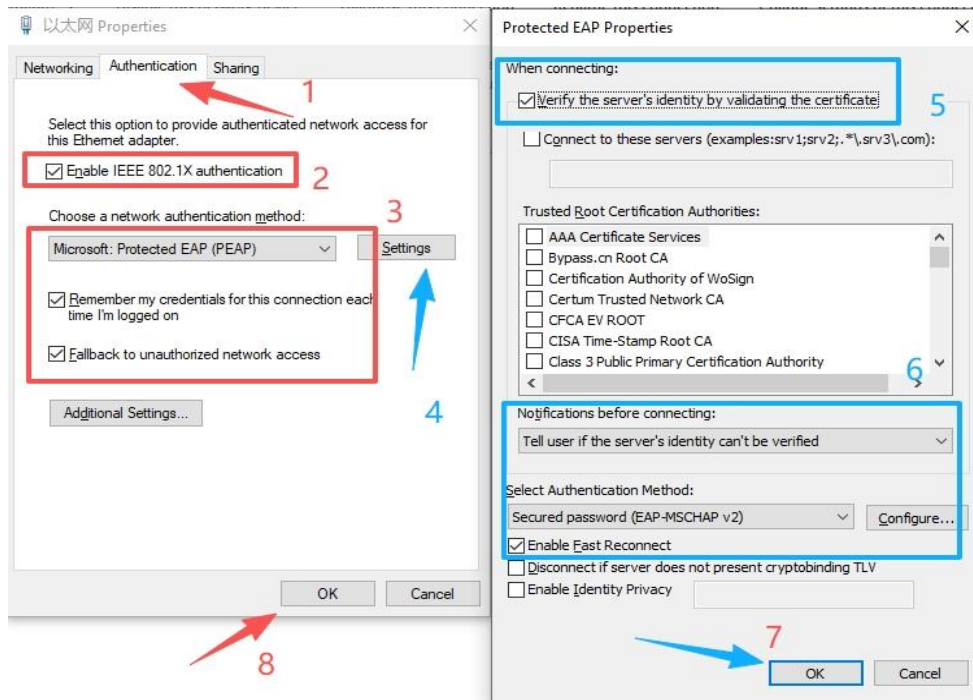
Adjust your computer's settings



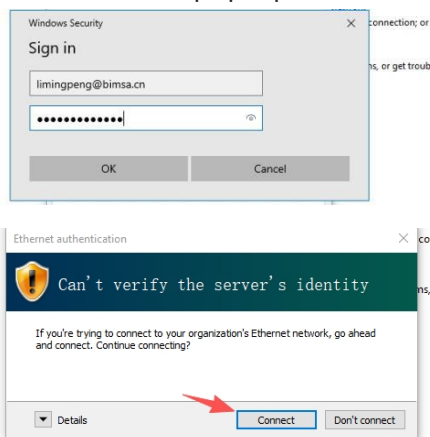


Right-click "Ethernet" and select "Properties". Configure as shown in the figure below and click "OK":





1.2 Account Login After completing the settings and connecting the network cable, the system will automatically pop up the 802.1X authentication window. Enter your authentication information and click "OK", then click "Connect" in the Ethernet authentication pop-up window;



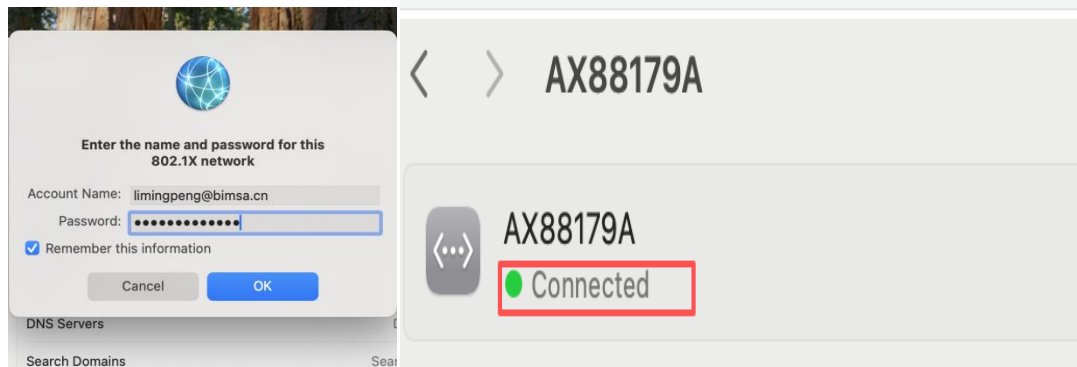
Successful Connection If the account and password are correct, the network icon will display "Connected" after a few seconds.



(2) macOS Systems

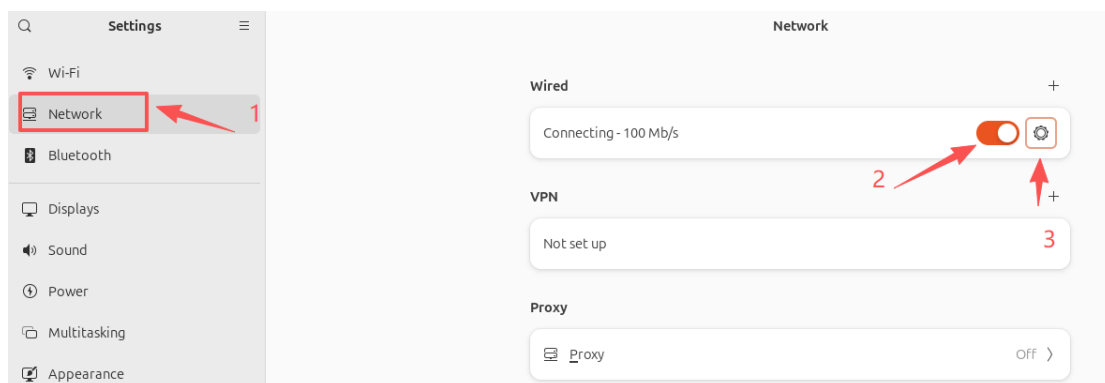
2.1 Network Connection After connecting the network cable, the system will

automatically pop up the authentication window. Enter your authentication information and click "OK". Once authenticated, the network status will display "Connected", and you can use the network normally.

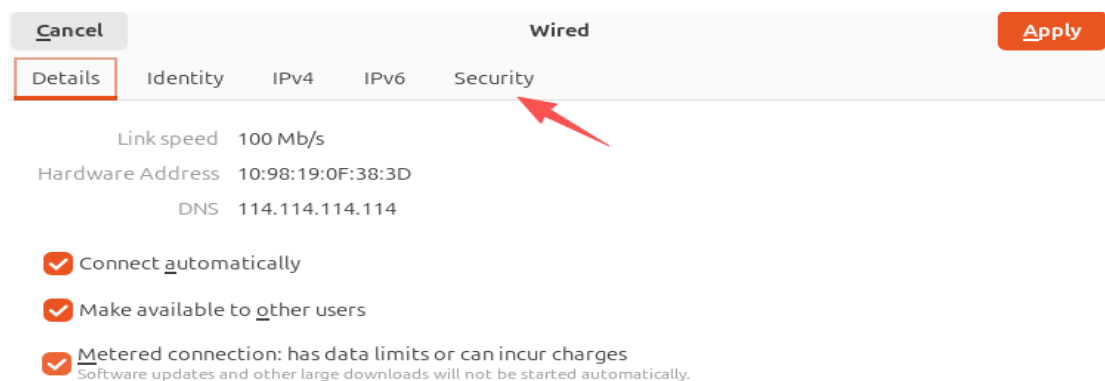


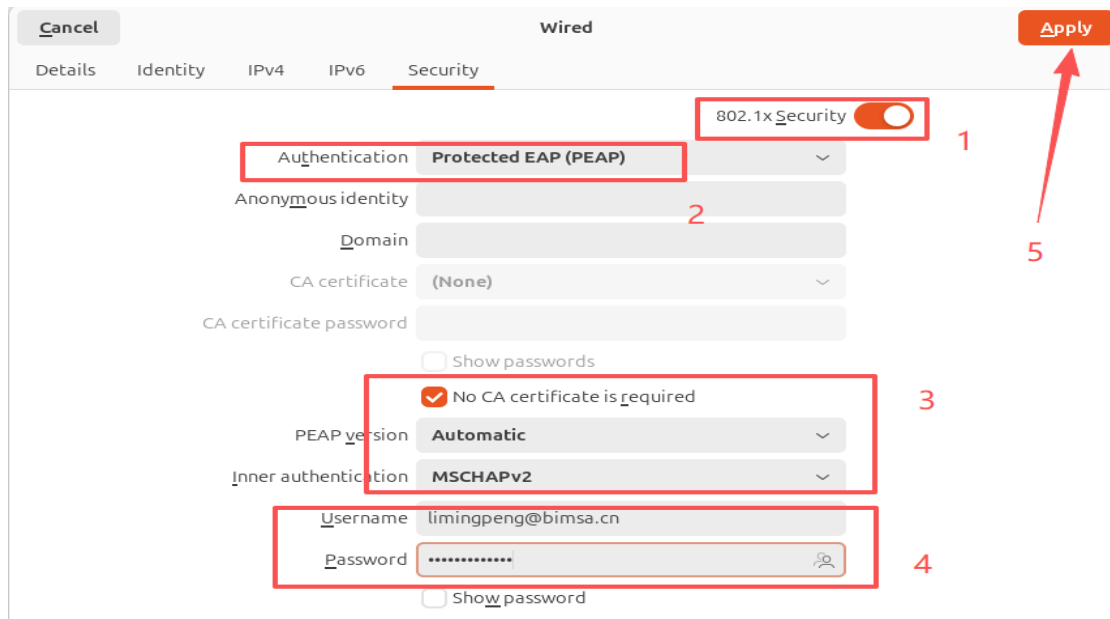
(3) Ubuntu Systems

3.1 Open Network Settings Find the wired network and configure it as shown in the figure below:



3.2 Account Login After completing the settings, enter your authentication information and click "Apply";





3.3 Successful Connection After connecting the network cable, if the account and password are correct, the network icon will display "Connected" after a few seconds.



V. Common Issues and Solutions

1.Authentication fails with "Incorrect username or password" error

Solution: Check that the username is your employee ID, and ensure the password is entered correctly (note case sensitivity and special characters). If you have forgotten your password, refer to the "Prerequisites" section.

2.The authentication window does not appear

Solution: Check that the network cable is properly connected; try replacing the cable or using a different network outlet. Turn off the computer firewall, antivirus software, and other security tools (some tools may block the

authentication window). Manually configure the authentication parameters following the steps in "Prerequisites – Authentication Settings" to trigger the authentication window.

3.Unable to access network resources even after successful authentication

Solution: Check the IP address assignment. If an invalid IP (e.g., 169.254.x.x) is obtained, right-click the wired connection, select "Disable", then re-enable it to obtain a new IP address. Contact the IT Department to verify that your account has the proper network permissions and that no access restrictions are in place.

4. Frequent disconnections requiring re-authentication

Solution: Check that the network cable connector is not loose; try a different cable. Verify that the wired network card driver on your computer is working properly and update the driver if necessary. Confirm whether the network outlet is faulty, and contact the facility manager or the IT Department to investigate line issues.

VI. Precautions

1. The authentication account is for personal use only. Sharing it with others is strictly prohibited. If any network security issues arise from account sharing, the account owner will be held responsible.
2. Passwords should contain a mix of uppercase and lowercase letters, numbers, and special characters. Avoid using simple passwords to prevent account theft.

3. Office computers must have genuine operating systems and antivirus software installed. Regularly update system patches and virus definitions to prevent device compromise and protect network security.

4. If you encounter unsolvable problems during the authentication process, contact the IT Department and provide the computer model, operating system version, and any error messages to facilitate quick troubleshooting.

VII. Contact Information

IT Department Email: itsupport@bimsa.com