Port authentication users guide

This guide provides the instruction to authorized the wired connection using 802.1x and Port Authentication on different operating systems.

Users have to authenticate their laptops to access to network using a valid SISSA account. If the authentication process is not correctly set, the laptop will not be allowed to access to network service.

Carefully follow the instructions for your system:

Windows 7 ...............page 2
Windows Vista ........page 8
Windows XP ............page 14

Mac OS X .................page 19

Ubuntu ....................page 23
Linux generic ............page 25
Windows 7 configuration guide

Configuration guide to the Sissa Wired Network (dot1x authentication), using the default tools and drivers of Microsoft Windows 7.

PLEASE NOTE: DO NOT PLUG the NETWORK CABLE untill you reach the STEP D of this procedure.

a) On the Desktop,
1) click the Start button,
2) and then type services.msc,
3) click on services.

b) In Services window,
1) look for Wired AutoConfig service,
2) click on it using the RIGHT mouse button,
3) and select Properties
c) In the Wired AutoConfig Properties window,
   1) in Startup type: drop down list select Automatic
   2) in Service status: field click Start
   3) then click on OK, and at the end close Services window.

d) Connect the Ethernet cable!
In the Notification area (bottom-right corner of the Desktop):
   1) click on the Network icon, 🌐
   2) and then on the Open Network and Sharing Center.
e) In the Network and Sharing Center window, Network section, active Connections: field:
• click on Local Area Connection

f) On the Local Area Connection Status window,
• Click on Properties
g) In the Local Area Connection Properties window,
1) select Authentication tab,
2) put a check in Enable IEEE 802.1X authentication box,
3) verify that in Choose a network authentication method: field Protected EAP (PEAP) is selected,
4) then click on Settings.

h) In Protected EAP Properties window,
1) remove the check in Validate server certificate box,
2) verify that in Select Authentication Method Secured password (EAP-MSCHAP v2) is selected,
3) click on Configure....
i) In EAP MSCHAPv2 Properties window, 
   Authentication tab,
   
   1) remove the check in **Automatically use my Windows logon name and password** box,
   
   2) click **OK** on this window and in Protected EAP Properties window (step h) too.

j) In the Local Area Connection Properties window,
   
   click on **Additional Settings**...
k) On the Advanced settings window,
1) put a check in Specify authentication mode,
2) in User or computer authentication drop down list,
3) select User authentication,
4) then click on Save credentials.

l) In the Windows Security window,
1) insert your Username, 2) and Password (the same of your SISSA webmail),
3) then click OK here and on ALL windows in order to save and confirm all settings.
Windows Vista configuration guide

Configuration guide to the Sissa Wired Network (dot1x authentication), using the default tools and drivers of Microsoft Windows Vista.

PLEASE NOTE: DO NOT PLUG the NETWORK CABLE untill you reach the end of the STEP K of this procedure.

a) On the Desktop,
   1) click the Start button,
   2) and then write services.msc in search bar,
   3) using the RIGHT mouse button click on services,
   4) then select Run as administrator.

b) In Services window (in the following image there is a part only…):
   1) look for Wired AutoConfig service, click on it using the RIGHT mouse button,
   2) and select Properties.
c) In the Wired AutoConfig Properties window,
   1) in Startup type drop down list select Automatic,
   2) in Service status field click Start,
   3) then click on OK button and close Services window.

d) On the Desktop,
   1) click the Start button,
   2) select Network,
e) In the Network window,
   • Click on Network and Sharing Center

f) In the Network and Sharing Center window,
   • on the same line of Local Area Connection (LAN) click on View Status.
g) In *Local Area Connection Status* window,
   - click on **Properties**

h) In *Local Area Connection Properties* window,
   1) select **Authentication** tab,
   2) put a check on **Enable IEEE 802.1X authentication** box,
   3) verify that in *Choose a network authentication method:* field **Protected EAP (PEAP)** is selected,
   4) then click on **Settings**.
i) In Protected EAP Properties window, 
   1) remove the check in Validate server certificate box, 
   2) Verify that in Select Authentication Method: drop down list Secured password (EAP-MSCHAP v2) is selected, 
   3) Click on Configure…. 

j) In EAP MSCHAPv2 Properties window, 
   1) remove the check in Automatically use my Windows logon name and password box, 
   2) then click OK here and on all window Properties (EAP MSCHAPv2 Properties, Protected EAP Properties, Local Area Connection Properties).
k) Connect the Ethernet cable,

- in the Notification area (bottom-right corner of the Desktop) will appear a pop-up window, click on it in order to enter your credentials.

l) In Enter Credentials window,

1) insert your Username and 2) Password (the same of SISSA webmail).
3) leave the Logon domain field empty,
4) then click OK.
Windows Xp configuration guide

Configuration guide to the Sissa Wired Network (dot1x authentication), using the default tools and drivers of Microsoft Windows XP.

PLEASE NOTE: DO NOT PLUG the NETWORK CABLE until you reach the end of the STEP J of this procedure.

a) On the Desktop,
1) click the Start button,
2) and then select Run.

b) In the Run window,
1) in the Open field write: services.msc,
2) then click on OK.

c) In the Services window (in the following image there is a part only…):
1) look for Wired AutoConfig service, click on it using the RIGHT mouse button,
2) and select Properties.
d) In the Wired AutoConfig Properties window,
1) in Startup type drop down list select Automatic,
2) in Service status field click on Start,
3) then click on OK button, and at the end close Services window.

e) On the Desktop,
1) click the Start button,
2) select Connect to,
3) and then Show all connections
f) In Network Connections window,
   1) using the RIGHT mouse button click on Local Area Connection,
   2) then select Properties.

![Network Connections window](image)

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f) In Network Connections window,
   1) using the RIGHT mouse button click on Local Area Connection,
h) In Protected EAP Properties window,

1) remove the check in Validate server certificate box,

2) verify that in Select Authentication Method Secured password (EAP-MSCHAP v2) is selected,

3) then click on Configure…

d) In EAP MSCHAPv2 Properties window,

1) remove the check in Automatically use my Windows logon name and password box,

2) then click OK here and on ALL Properties (EAP MSCHAPv2, Protected EAP Properties, Local Area Connection Properties) windows.
j) Connect the **Ethernet cable**,  
   - in the **Notification area** (bottom-right corner of the Desktop) will appear a pop-up window, **click on it** in order to enter your credentials

![Pop-up window for entering credentials](image)

k) In *Enter Credentials* window,
   1) insert your **Username**, 2) and **Password** (the same of SISSA webmail),  
   3) leave the **Logon domain** field **empty**,  
   4) then click **OK**.

![Enter Credentials window](image)
Mac OSX configuration guide

Configuration guide for the Sissa Wired Network (dot1x authentication), using the default tools of Mac OS X.

PLEASE NOTE: DO NOT PLUG the NETWORK CABLE untill you reach the end of the STEP F of this procedure.

a) On the Desktop in the up-right corner,
1) click on the Network icon, and then
2) Open Network Preferences…

b) In the Network window,
1) select Ethernet connection,
2) verify that Using DHCP is selected,
3) and then click on Advanced…
c) In the *Ethernet* window,

1) Select **802.1X** tab,
2) and click on +, in the bottom-left corner of the window.

![Ethernet window](image)

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d) A drop down menu list will appear,

- Select **Add User Profile**

![Add User Profile](image)
e) In the *Ethernet* window,

1) Insert your **Username**, and 2) **Password** (the same of SISSA webmail),
3) verify that in **Authentication** boxes **TTLS** and **PEAP** are both checked,
4) then click **OK**.

![Ethernet window](image)

f) Plug in the **Ethernet cable** and Click **Connect**

![Ethernet cable connection](image)
g) Click on **Continue**

![Verify Certificate](image)

h) In the **Network** window, click **Apply**.
Ubuntu configuration guide

The instructions refer to Ubuntu 9.04 and Gnome Desktop –in english– using Network Manager (the applet controlling the network connections).

PLEASE NOTE: DO NOT PLUG the NETWORK CABLE untill you reach the end of the STEP D of this procedure.

When the port authentication is not required:
outside SISSA or in the Miramare, Stock, Q1 building user rooms;
just uncheck **Use 802.1X security for this connection** in the Editing window (Step c, point 2)

a) To open the Network connections window, on the main top bar menu:

1) click on **System**,  
2) click on **Preferences**,  
3) then click on **Network connections**;

![Network Connections Window](image1)

b) In the **Network connections** window:

1) in **Wired** tab,  
2) select the connection and then,  
3) click on **Edit**.

![Network Connections Menu](image2)
c) In the *Editing ...* window:

1) Select **802.1X Security** tab,

2) put a check in the *Use 802.1X security for this connection* box,

3) in the *Authentication* drop down list select **Protected EAP (PEAP)**,

4) verify that *Inner Authentication* is set to **MSCHAPv2** then,

5) insert your **Username** and

6) **Password** (the same of SISSA webmail).

d) Always in the *Editing ...* window:

1) Select *IPv4 Settings* tab,

2) verify that the selected method is **Automatic (DHCP)** and then,

3) click on **Apply** and plug in the Ethernet cable.
Linux configuration guide

Configuration guide for the SISSA Wired Network (dot1x authentication), using `wpa_supplicant`.

a) With your preferred text editor create the `/etc/wpa_supplicant/SISSA-WIRED.wpa_supplicant.conf` configuration file and insert the following lines:

```plaintext
ctrl_interface=/var/run/wpa_supplicant
ctrl_interface_group=wheel
ap_scan=0

network={
    key_mgmt=IEEE8021X
eap=PEAP
    phase2="auth=MSCHAPV2"
    identity="yourusername"
    password="yourpassword"
eapol_flags=0
}
```

Insert your `yourusername` and `yourpassword` (the same of your SISSA webmail) in the `identity` and `password` fields.

b) Depending on your distribution you have to continue in different ways:

- Generic Linux distribution go to the page 26,
- Ubuntu/Debian based distributions go to the page 26,
- Fedora/RedHat distributions go to the page 27.
Generic Linux distribution

GL-a) Run the following command in order to activate the wpa_supplicant daemon:

```
wpa_supplicant -c /etc/wpa_supplicant/SISSA-WIRED.wpa_supplicant.conf -i eth0 -D wired
```

GL-b) To check the correct status of wpa_supplicant daemon, run the following commands:

```
wpa_cli
```

```
…… then status
```

Please check the value of the following parameters:

```
wpa_state=ASSOCIATED
```

GL-c) Open another terminal and start network service:

```
ifup eth0
```

GL-d) Use again the `wpa_cli` command and check its result; the last line should be the following:

```
CTRL-EVENT-EAP-SUCCESS EAP authentication completed successfully
```

Ubuntu/Debian based distributions

U&D-a) Using a text editor add the following lines at the end of the file: `/etc/network/interfaces`

```
auto eth0
iface eth0 inet dhcp
  wpa-driver wired
  wpa-conf /etc/wpa_supplicant/SISSA-WIRED.wpa_supplicant.conf
```
U&D-b) Enable the network service:
```
sudo /etc/init.d/networking start
```

**Fedora/RedHat distributions**

F&RH-a) Edit the file `/etc/sysconfig/wpa_supplicant`, then modify the value of the following parameters:
```
INTERFACES="-i eth0"
DRIVERS="-D wext"
OTHER_ARGS="-w -f /var/log/wpa_supplicant.log"
```

Please note that these parameters are in different lines.

F&RH-b) Enable the wpa_supplicant daemon and the network service:
```
service wpa_supplicant start
service network start
```