

[Old Version using WEP](#)

Setup of the UNIBZ Wireless LAN for Linux WPA

Security used within the WLAN Network:	WPA1/WPA2 + PEAP + MSCHAPv2
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Pre-requisites

- Drivers for your Wireless Adapter and Requirements, installed and configured.
 1. Intel PRO/Wireless 2100 802.11b (Centrino) <http://ipw2100.sourceforge.net/>
 2. Intel PRO/Wireless 2200 802.11g and 2915 802.11ag (Centrino) <http://ipw2200.sourceforge.net/>
 3. Intersil PrismII driver with HostAP mode <http://hostap.epitest.fi/>
 4. Atheros MADWiFi driver (most cards with 802.11a or 108 Mb/s) <http://madwifi.org/>
 5. WLAN Cards using ndiswrapper
http://ndiswrapper.sourceforge.net/mediawiki/index.php/Main_Page
- Linux Software for the Authentication: [wpa_supplicant](#). It is a WPA Supplicant with support for WPA and WPA2 (IEEE 802.11i/RSN)
- A good Networkmanager GUI and front-end of wpa_supplicant is [NetworkManager](#). A list of [Supported Wireless Cards & Drivers](#) is also available. A wiki about NetworkManager can be found in section [Using NetworkManager](#)

Other Wireless LAN resources for Linux can be found here

http://www.hpl.hp.com/personal/Jean_Tourrilhes/Linux/

(K)(X)Ubuntu 9.10 Using NetworkManager

 Connection name:

☒ Connect automatically

☐ System connection

Wireless

Wireless Security

IP Address

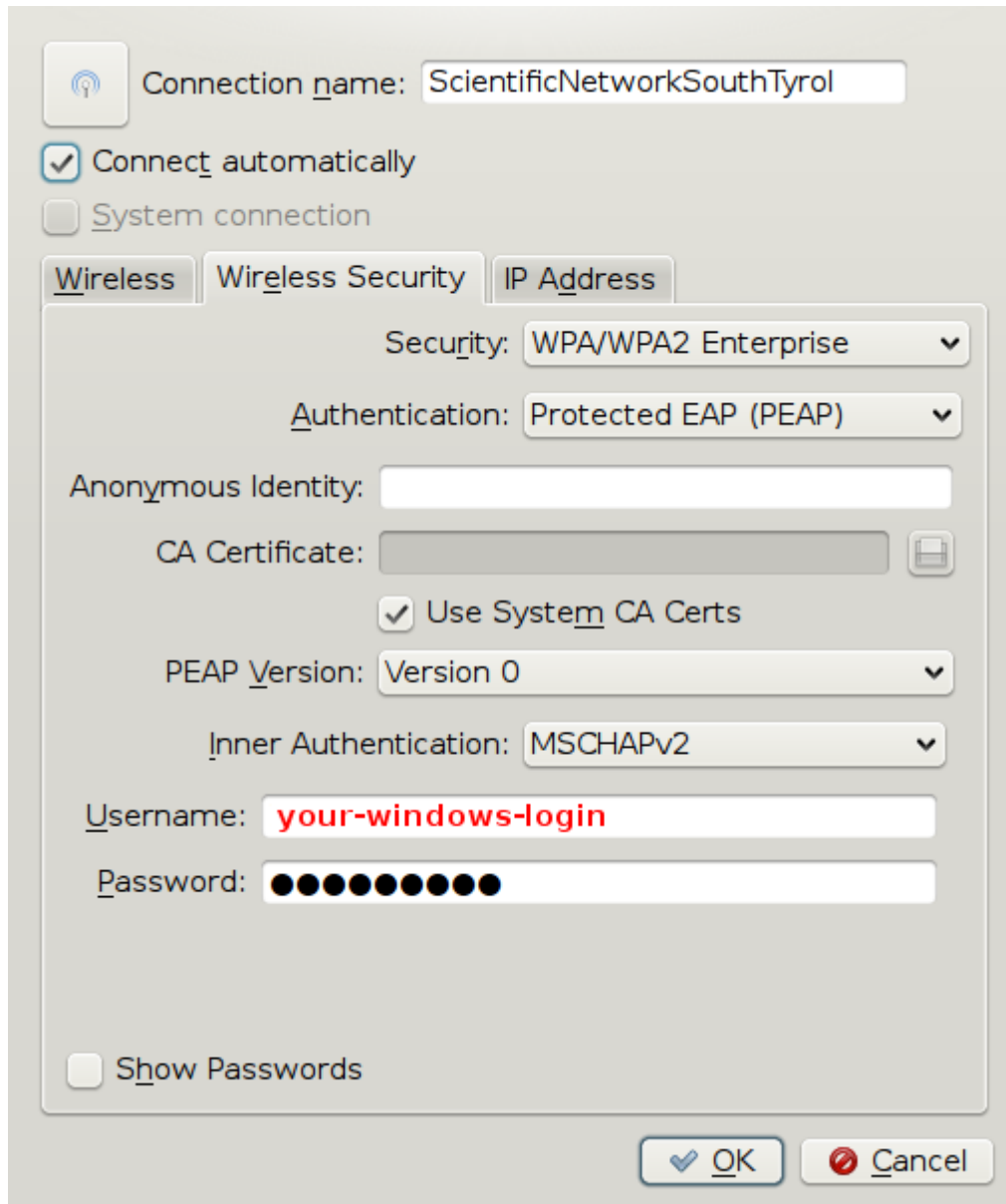
SSID:

Mode:

BSSID:

Restrict To Interface:

MTU: Automatic



The image shows a 'Wireless Network Setup' dialog box. At the top, there is a wireless icon and a text field for 'Connection name' containing 'ScientificNetworkSouthTyrol'. Below this, there are two checkboxes: 'Connect automatically' (checked) and 'System connection' (unchecked). There are three tabs: 'Wireless' (selected), 'Wireless Security', and 'IP Address'. The 'Wireless Security' tab is active, showing a 'Security' dropdown set to 'WPA/WPA2 Enterprise' and an 'Authentication' dropdown set to 'Protected EAP (PEAP)'. Below these are fields for 'Anonymous Identity' (empty), 'CA Certificate' (empty with a file icon), and a checked 'Use System CA Certs' checkbox. The 'PEAP Version' dropdown is set to 'Version 0', and the 'Inner Authentication' dropdown is set to 'MSCHAPv2'. There is a 'Username' field containing 'your-windows-login' in red text, and a 'Password' field with 12 black dots. At the bottom left is a 'Show Passwords' checkbox (unchecked). At the bottom right are 'OK' and 'Cancel' buttons.

Connection name: ScientificNetworkSouthTyrol

☒ Connect automatically

☐ System connection

Wireless Wireless Security IP Address

Security: WPA/WPA2 Enterprise

Authentication: Protected EAP (PEAP)

Anonymous Identity:

CA Certificate:

☒ Use System CA Certs

PEAP Version: Version 0

Inner Authentication: MSCHAPv2

Username: your-windows-login

Password:

☐ Show Passwords

OK Cancel

The image shows a NetworkManager connection configuration window. At the top, there is a connection icon and the name 'ScientificNetworkSouthTyrol'. Below this, there are two checkboxes: 'Connect automatically' (checked) and 'System connection' (unchecked). There are three tabs: 'Wireless' (selected), 'Wireless Security', and 'IP Address'. The 'Wireless' tab contains a 'Configure:' dropdown menu set to 'Automatic (DHCP)'. Below this are input fields for 'IP Address:', 'Subnet Mask:', 'Gateway:', 'Search Domains:', and 'DNS Servers:'. Each of these fields has a small '...' button to its right. At the bottom right of the window are 'OK' and 'Cancel' buttons.

Links:

[NetworkManager Howto](#)

(K)(X)Ubuntu < 9.10 Manually

Installing wpa_supplicant

1. apt-get install wpa_supplicant
2. Configure /etc/wpa_supplicant.conf

Download [Thawte_Premium_server_CA.pem](#) Certificate if you do not have it!

less /etc/wpa_supplicant.conf

```
ctrl_interface=/var/run/wpa_supplicant
ctrl_interface_group=0
eapol_version=1
ap_scan=1
fast_reauth=1

network={
    disabled=0
    ssid="ScientificNetworkSouthTyrol"
    proto=WPA
    key_mgmt=WPA-EAP
    auth_alg=OPEN
    eap=PEAP
    identity="unibzlogin@unibz.it"
    password="unibzpassword"
    ca_cert="/etc/ssl/certs/Thawte_Premium_Server_CA.pem"
    phase1="peaplabel=0 peapver=0"
    phase2="auth=MSCHAPV2"
    priority=10
}
```

3. Bring Interface (eth1/wlan, etc.) up

```
sudo ifconfig eth1 up
```

4. Start wpa_supplicant

```
sudo wpa_supplicant -D wext -i eth1 -c /etc/wpa_supplicant.conf
```

5. Get an IP Address

```
sudo dhclient3 eth1
```

Configuration for Wired Authentication 802.1x (Cable)

Make sure you have installed wpa_supplicant and wpa_gui

```
sudo apt-get install wpa_supplicant wpa_gui
```

Edit the configuration file: /etc/wpa_supplicant/wpa_supplicant.conf

```
vi /etc/wpa_supplicant/wpa_supplicant.conf
```

```
ctrl_interface=/var/run/wpa_supplicant
ctrl_interface_group=0
```

```
eapol_version=1
ap_scan=0
fast_reauth=1

network={
    eap=PEAP
    eapol_flags=0
    phase1="peaplabel=0"
    phase2="auth=MSCHAPV2"
    priority=10
    key_mgmt=IEEE8021X
    auth_alg=OPEN
}
```

Now execute the following commands:

Starts wpa_supplicant with wired driver (-D wired) and in daemon mode (-B)

- `sudo wpa_supplicant -D wired -c /etc/wpa_supplicant/wpa_supplicant.conf -i eth0 -B`

Start wpa_gui to enter username and password

- `sudo wpa_gui`
- Login with username@unibz.it and password

Get an IP Address

- `sudo dhclient3 eth0`

— *kohofer* 2010/02/22 14:38

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Permanent link:
https://wiki.inf.unibz.it/doku.php?id=public:wireless_lan_using_linux&rev=1266846044

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