



University of South Australia
Information Strategy and Technology Services

Getting connected to the UniSA Wireless Network using 802.1x

Linux (Ubuntu)

Version: 1.2

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Introduction

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This guide describes how to set up Linux to connect the University's wireless network using 802.1x. This document focuses on Version 6.06 LTS of the Ubuntu distribution of Linux. For other Linux distributions please refer to the relevant website, forum or wiki.

Note: Apart from the installation method Suse has a similar setup process.

802.1x is an access-control method that:

1. restricts access to the network to authorised users only (staff and student);
2. provides encrypted access between the client PC and the wireless access point using WPA or WPA2 encryption.

This service provides you with access to the University's shared computing services and Internet-based facilities as if you were using a networked computer on campus.

Please note that this service is provided for authorized university-related computing only, as outlined in the Policy *Use of University Information Technology Services*, which can be found on the University's web site at:

<http://www.unisa.edu.au/policies/policies/corporate/C22.asp>

IMPORTANT - READ THIS BEFORE CONTINUING!

Prerequisites/ Assumptions	In order to proceed with the set up detailed in this guide you will need a valid University of South Australia NT Domain username and password.
Hardware requirements	You will need to have a notebook computer with either 802.11b or 802.11g wireless capability. For a list of compatible cards/linux drivers for 802.1x and WPA please see http://live.gnome.org/NetworkManagerHardware .
Software requirements	802.1x uses WPA or WPA2 for security, to provide support for this level of encryption Linux relies on the application WPA_supplicant. The WPA_supplicant application can be difficult to set up - fortunately however, Ubuntu 6.06 LTS provides a network management application – NetworkManager which uses WPA_supplicant as a plug-in and hence provides simple point and click configuration for WPA and 802.1x networks. To provide a graphical user interface (Frontend) to NetworkManager in the Gnome desktop environment the 'application network-manager-gnome' is available. For users of the KDE desktop environment the equivalent NetworkManager graphical interface is 'network-manager-kde'. NetworkManager is available in the official Ubuntu software repositories.
Note	802.1x connectivity does not require the use of a VPN. If you have previously used a VPN client to connect to the wireless network this is no longer necessary.

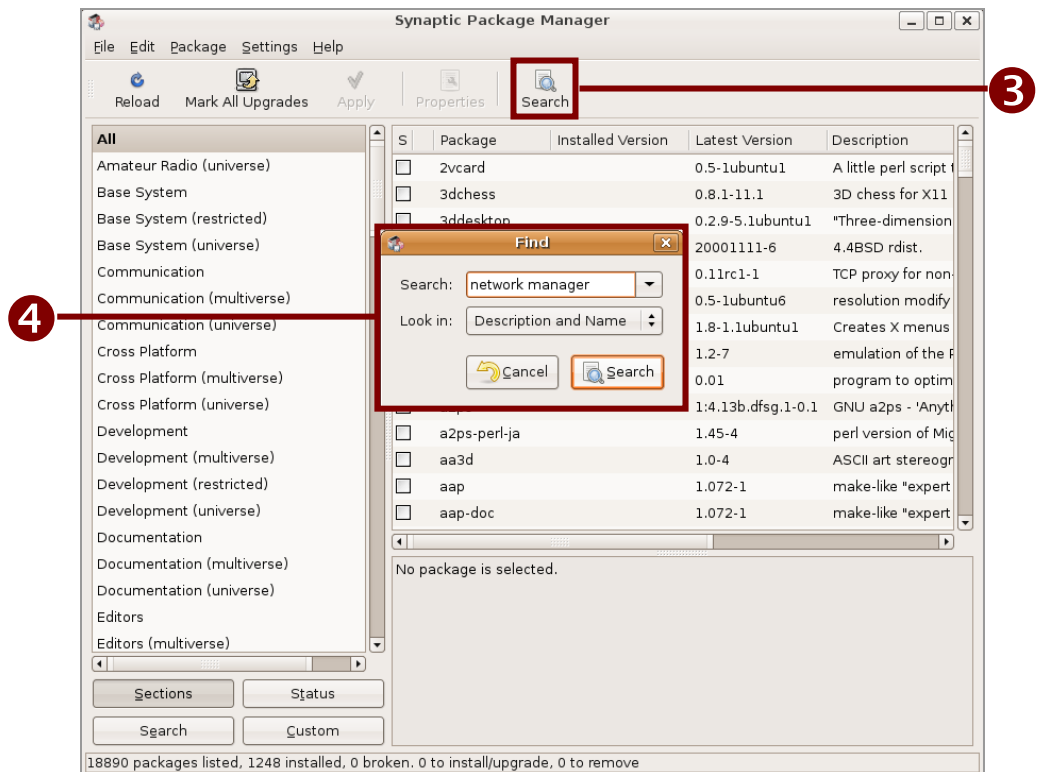
Step 1 – Setting up the software

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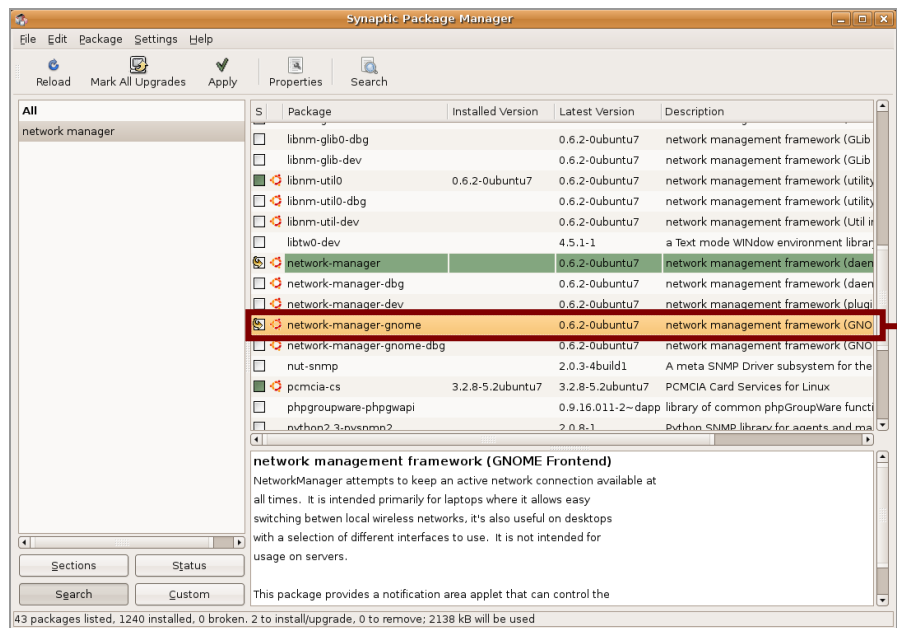
1. From the main menu select the *Add/Remove applications* icon.
2. Click on the *Advanced* button. This will open the *Synaptic Package Manager* window.



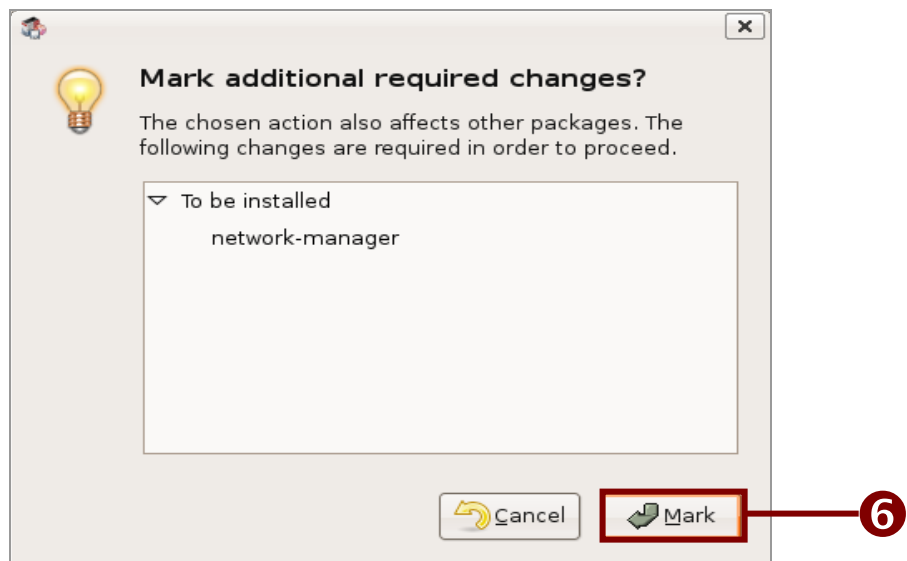
3. In the *Synaptic Package Manager* window click on the *Search* icon. This will display the *Find* dialog.
4. Enter “network manager” in the *search* field and click *Search*.



5. In the package list window locate *network-manager-gnome* and click in the check box and select *Mark for installation*.

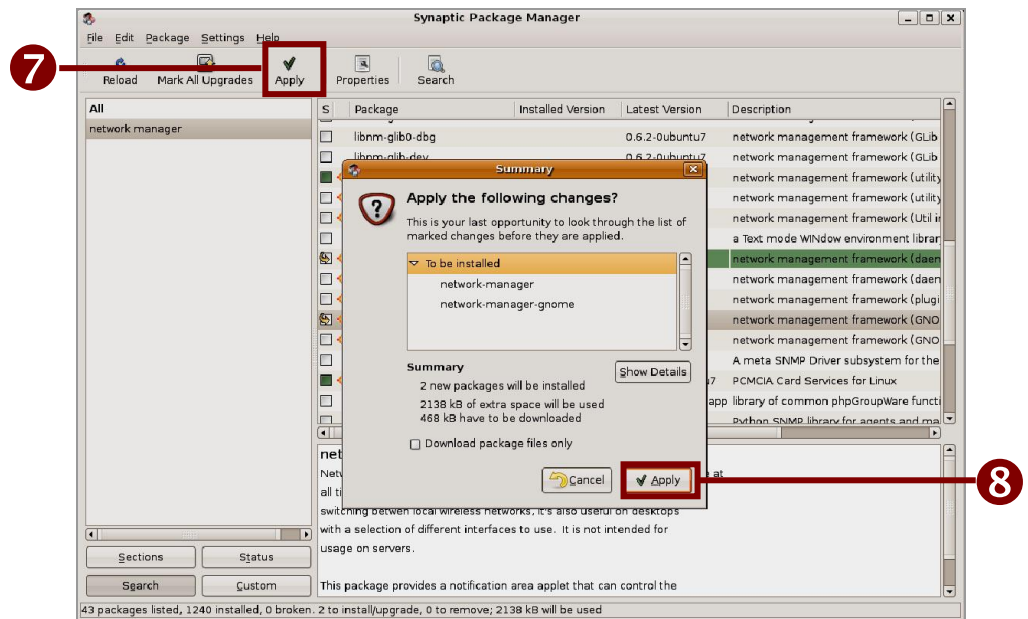


6. Click *Mark* in the *Mark additional required changes?* dialog box.



By installing the gnome front-end for NetworkManager the Synaptic Package Manager will ensure that the NetworkManager application itself will also be installed.

7. Click *Apply* in the *Synaptic Package Manager* window.
8. Click *Apply* in the *Apply the following changes?* Dialog box.



9. Once the software has finished installing exit the *Synaptic Package Manager* application and log out of Ubuntu; then log in again.

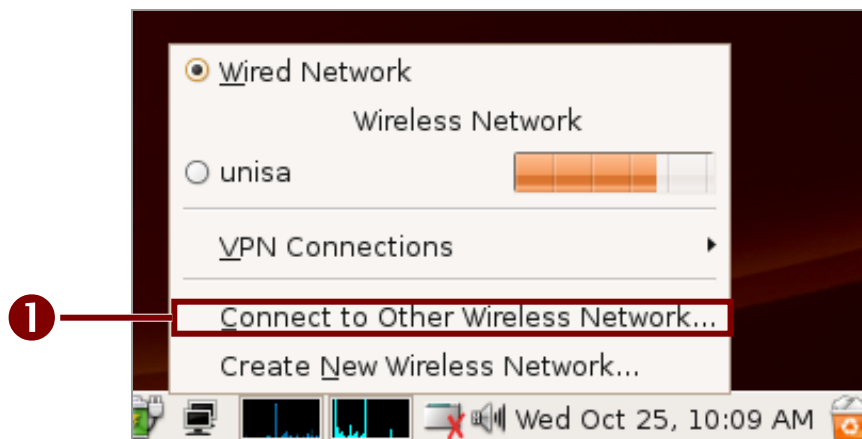
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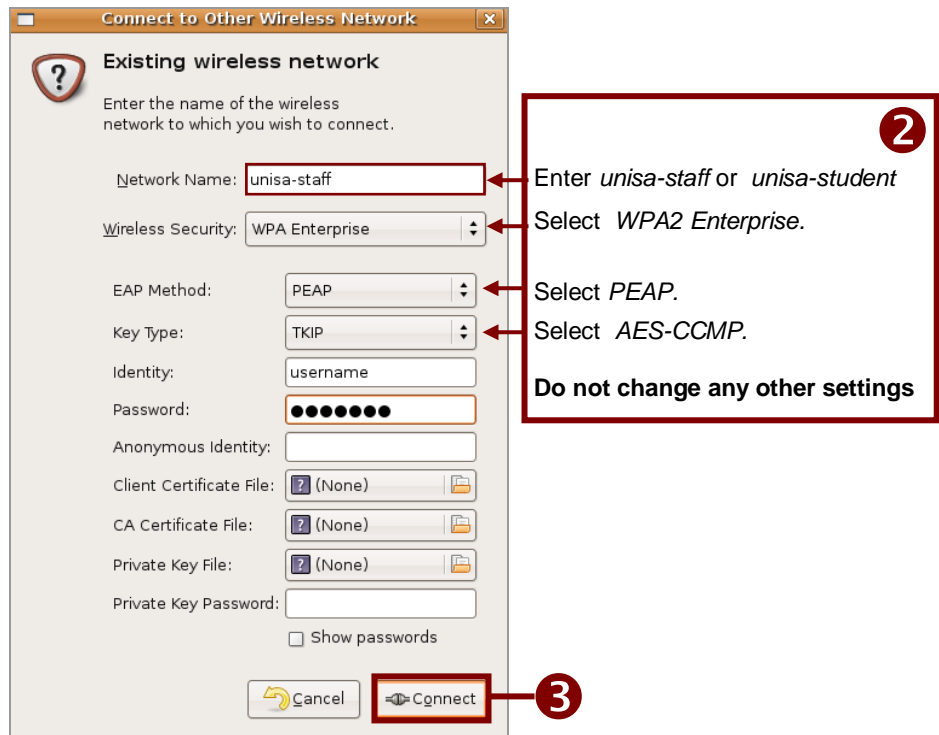
After logging back in the *NetworkManager* applet should appear in the toolbar. If wireless is enabled, left-clicking the applet will display all visible wireless networks.

Note: If there are no wireless networks available right click the *NetworkManager* applet and ensure that *Enable Wireless* is ticked.

1. Select *Connect to Other Wireless Network ...*

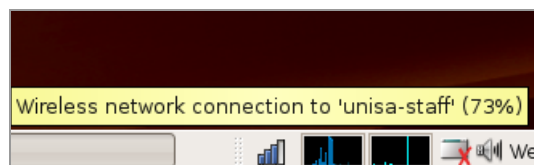


2. Enter the configuration information. Do not change any of the other fields.
3. Click the *Connect* button.



4. At this point the *NetworkManager* icon will show an animation to indicate it is attempting to connect, this may take up to a minute.

Once connected the *NetworkManager* icon will display a bar graph indicating signal strength. If the mouse pointer is held over the icon a tool tip will appear with information about the connection including SSID and signal strength of the connection expressed as a percentage.



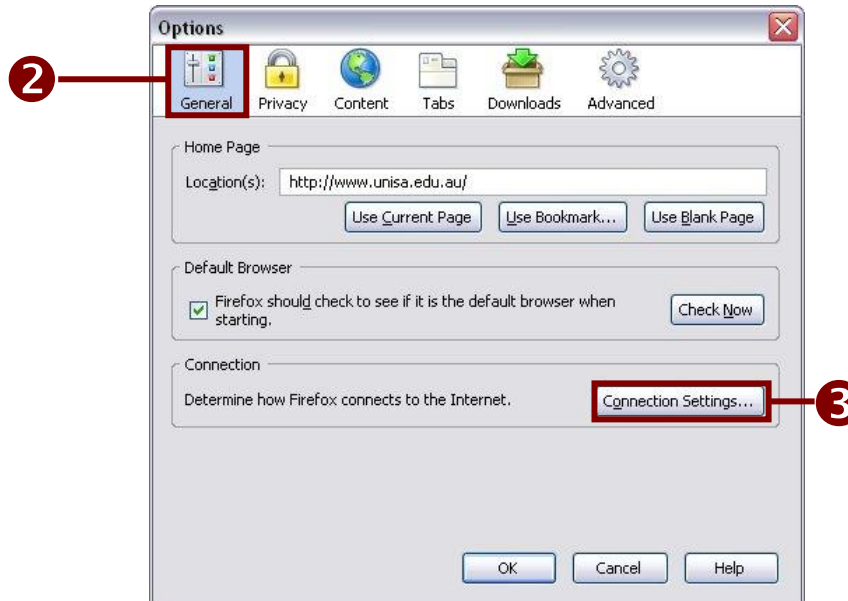
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In order to access the Internet from the wireless network it is necessary to configure your LAN proxy settings to point to the University's proxy server.

If you are using Mozilla Firefox:

1. Select *Preferences...* from the *Edit* menu.
2. Click on the *General* icon.
3. Click on the *Connection Settings ...* button.



4. Select *Auto-detect proxy settings for this network*.
5. Click on *OK*.

