
ANUGA Installation Guide

Release 1.3.0-beta

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Introduction

This document outlines the procedure for installing the Anuga toolbox. All components are licensed as open source and readily available from the net. It is assumed that the reader is familiar with the Python programming language and the process of downloading, installing and unpacking files into directories.

1.1 System requirements

To run ANUGA you will need a Windows PC (XP, Vista or 7) or a Linux PC with at least 512MB RAM. As ANUGA is a memory-intensive numerical system, more memory is better than less.

The viewer (Windows only) requires a graphics adapter that is OpenGL compatible. It has been tested with ATI FireGL X1 cards and the NVIDIA family. It may not work with other cards such as those from the Intel(R) 82915G Express chipset family.

The instructions below are written for the numpy version of ANUGA. ANUGA changed from relying on the Numeric package to the numpy package early in July, 2009. If you have a Numeric ANUGA, you should refer to the installation instructions for that version. The last Numeric version of ANUGA had a build number of 7163.

Where the text below refers to a specific package file such as `python-2.5.msi` you will find that file in a download area linked through the *numpy_support_software* link on the page <https://datamining.anu.edu.au/anuga/wiki/NumpyInstall>.

1.2 Installation

Below are the install procedures for Windows XP, Windows Vista, Windows 7 (all 32 bit) and Linux (32 and 64 bit).

1.2.1 Quick install - Windows XP (32 bit)

If you already have previous versions of Python, ANUGA support software or the ANUGA source code installed on the target machine, start off by uninstalling them. Next, download the latest version of the ANUGA Windows installer from <http://sourceforge.net/projects/anuga/files/>. The Windows installer will install Python, MingW (select the "Minimal" install), NumPy, NetCDF, Scientific Python, Matplotlib, the ANUGA source code and the viewer (animate). Note that you will need an internet connection to install MingW.

After all the necessary packages have been installed, the installer will proceed to compile the ANUGA C code, run the test suite (optional) and then run a series of validation examples (optional). This may take some time. Try the demonstrations provided in the ANUGA directory `anuga_demos` (discussed in the ANUGA user manual at https://datamining.anu.edu.au/anuga/attachment/wiki/WikiStart/anuga_user_manual-1.2.0.pdf) and view the resulting `.swf` files with the ANUGA viewer.

1.2.2 Quick install - Windows Vista and 7

The installation of the support software and the ANUGA software should be the same as for Windows XP above. The installation and use of ANUGA under Windows Vista and 7 have not been heavily tested. Feedback on any aspect of using ANUGA under Vista or 7 is welcomed.

1.2.3 Quick install - Linux

Please note that the following applies only to Ubuntu 10.04 (Lucid Lynx). We currently do not support any other Linux distributions.

Method 1

Choose the appropriate deb package for your architecture, download and use the package installer to install.

i386: https://sourceforge.net/projects/anuga/files/anuga_ubuntu_package/python-anuga_1.2.0-0ubuntu3_i386.deb/download
AMD64: https://sourceforge.net/projects/anuga/files/anuga_ubuntu_package/python-anuga_1.2.0-0ubuntu3_amd64.deb/download

Method 2

Open a terminal and enter:

```
sudo add-apt-repository ppa:anuga/ppa
sudo apt-get update
sudo apt-get install python-anuga
```

Method 3

Add the following lines to your `/etc/apt/sources.list`:

```
deb http://ppa.launchpad.net/anuga/ppa/ubuntu lucid main
deb-src http://ppa.launchpad.net/anuga/ppa/ubuntu lucid main
```

Download the ANUGA key from <https://datamining.anu.edu.au/anuga/raw-attachment/wiki/WikiStart/anuga.key>. You can add this key with:

```
sudo apt-key add anuga.key
```

or go to System -> Administration -> Software Sources -> Authentication -> Import Key File

Open a terminal and enter:

```
sudo apt-get update
sudo apt-get install python-anuga
```

1.3 Optional but recommended software

This software is not required to run the ANUGA toolbox, but it is recommended.

- **psyco.** Speeds up ANUGA by about 30%, so is strongly recommended. Under Ubuntu install either through Synaptic or by:

```
sudo apt-get install python-psyco
```

Under Windows install the file `psyco-1.6.win32-py25.exe` which you can find on the <http://psyco.sourceforge.net/download.html> page.

- **VTK.** The Visualization Toolkit. Under Ubuntu install either through Synaptic or by:

```
sudo apt-get install python-vtk
```

Under Windows install the file `vtk-5.4.2-win32.exe` from the <http://www.vtk.org/VTK/resources/software.html> page.

1.4 Testing

In the ANUGA root directory, run the test suite:

```
python test_all.py
```

ANUGA has been succesfully installed if the tests pass as follows:

```
...
test_data_manager.py
test_interpolate_sww.py
test_mesh.py
test_mesh_interface.py
test_triangmodule.py
test_triangmoduleII.py
test_advection.py
.....
.....
.....
.....
.....
.....
.....
.....
-----
Ran 593 tests in 42.712s

OK
```

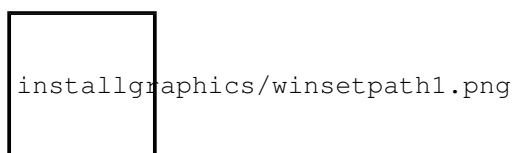
Note that if psycho is not installed, a number of psycho related warnings will appear. These warnings can be ignored.

Miscellaneous procedures

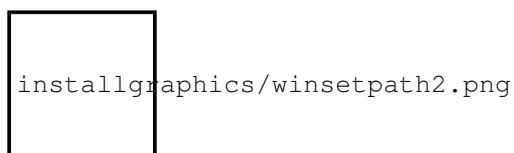
A.1 Setting the PATH on Windows

The Windows one-click installer should automatically set the necessary PATH environment "System variables". However, in case you do not have permission to modify the system variable, then the method of setting the PATH environment "User variable" for Windows XP is shown here. Setting the variable for Windows Vista should be similar.

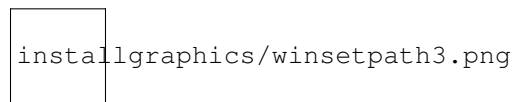
First, open the Control Panel:



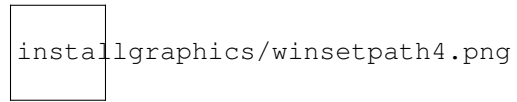
Next, start the System applet:



Select the Advanced tab in the System Properties window:




Press the Environment Variables button in the Advanced tab:



If the `PATH` variable is not defined in the 'User variables' or 'System variables' windows, press the `New` button in either of the two windows (for a personal machine, choose the 'System variables' window).

If `PATH` already exists in the 'User variable' or 'System variables' window, select the row with the `PATH` variable name in the appropriate window and press the `Edit` button next to the `New` button in that window:

`installgraphics/winsetpath5.png`

You will be shown the editor window whichever button you pressed in the above step. If the `Variable name` box is empty type in the name `PATH`. In the `Variable value` box type the value you want the `PATH` variable to have. If there is already some text in the box, place your additional value at the front of the existing value, not forgetting to terminate your additional string with the `;` character. The final value string must be a series of directory names separated by `;` characters:

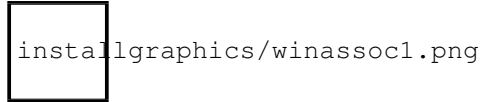
`installgraphics/winsetpath6.png`

When you are finished, press the `OK` button and exit from the applet.

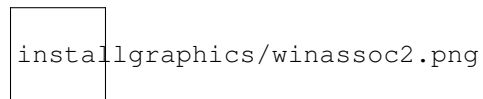
A.2 Associating animate.exe with a .sww file

The one-click installer should associate `animate.exe` with `.sww` files automatically. However, the method of associating `animate.exe` with a `.sww` file manually is shown here for Windows XP. A similar process should work for Windows Vista.


Double left-click on any `.sww` file. This brings up a dialog because Windows doesn't know how to open the file:




Select the "Select the program from a list" radiobutton and press the OK button:



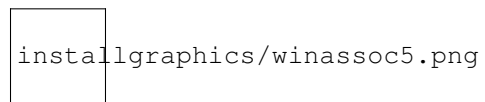
Press the `Browse . . .` button to find the `animate.exe` program:

 `installgraphics/winassoc3.png`

Navigate to the `C:\Program Files\anuga_viewer` directory:

 `installgraphics/winassoc4.png`

Select `animate.exe` and press the Open button:



Finally, press the OK button:

