

# 3d Brain Atlas Reconstructor Installation (Ubuntu)

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**Note:** This procedure is valid for *Ubuntu 9.04*, *Ubuntu 10.04 LTS*, *Ubuntu 10.10* and *Ubuntu 11.04*. Installation on other Ubuntu versions or other Linux distributions is similar but the packages versions may be slightly different.

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## Installing required packages

### Installation in Ubuntu 9.10

1. Install the Visualization Toolkit and other graphics libraries:

```
sudo apt-get install \
libvtk5.2 libvtk5-dev libvtk5.2-qt4 libvtk5-qt4-dev \
tk8.5 tk8.5-dev \
python-vtk libgtkgl2.0-1 libgtkgl2.0-dev libgtkglext1 librsvg2-2 python-nifti
```

2. Install python related packages:

```
sudo apt-get install \
python-gtkglext1 python-rsvg python-opengl python-numpy python-scipy python-wxgtk2.6
```

3. Other packages:

```
sudo apt-get install \
potrace pstoedit python-setuptools python-epydoc
```

If you are a developer you may also want to install optional packages with documentation:

```
sudo apt-get install vtkdata vtk-doc vtk-examples
```

### Installation in Ubuntu 10.04

Install the following packages:

```
sudo apt-get install \
```

```
libvtk5.2 libvtk5-dev libvtk5.2-qt4 libvtk5-qt4-dev \  
tk8.5 tk8.5-dev \  
python-vtk libgkgl2.0-1 libgkgl2.0-dev libgkglext1 librsvg2-2 python-nifti  
  
sudo apt-get install \  
python-gtkglext1 python-rsvg python-opengl python-numpy python-scipy python-wxgtk2.6  
  
sudo apt-get install \  
potrace pstoeedit python-setuptools python-epydoc
```

## Installation in Ubuntu 10.10 and Ubuntu 11.04

Install the following packages:

```
sudo apt-get install \  
libvtk5.4 libvtk5-dev libvtk5.4-qt4 libvtk5-qt4-dev \  
tk8.5 tk8.5-dev \  
python-vtk libgkgl2.0-1 libgkgl2.0-dev libgkglext1 librsvg2-2 python-nifti  
  
sudo apt-get install \  
python-gtkglext1 python-rsvg python-opengl python-numpy python-scipy python-wxgtk2.8  
  
sudo apt-get install \  
potrace pstoeedit python-setuptools python-epydoc
```

Once all the packages are installed it is time to create the directory structure.

## Getting the code

It is assumed that the main directory dedicated for 3dBAR is `/home/$USERNAME/3dbar`. if you want to install it in another directory, replace `3dbar` with the desired path.

To get the latest stable version of 3dBAR fill out [the following form](#) then download 3dBAR using the link provided via email.

Unzip the file to your home directory and go to the 3dBAR directory:

```
mkdir ~/3dbar; unzip 3dbar_latest.zip -d ~/3dbar ; cd ~/3dbar;
```

Created directories have the following purposes:

- **bin**: Holds all executable files, atlas parsers and auxiliary scripts
- **lib**: Holds the 3dBAR api
- **atlases**: Directory, where the source data, *CAF datasets* and reconstructed models are stored. Each dataset (denoted as `DATASET_NAME`) contains the following subdirectories:
  - ◆ `atlases/DATASET_NAME/src` : Here the source data is located. It can be placed manually by a user or downloaded from internet depending on a particular parser.
  - ◆ `atlases/DATASET_NAME/caf` : This is the directory where a CAF dataset is generated by specific parsers.
  - ◆ `atlases/DATASET_NAME/reconstructions` : The directory for reconstructed models.

# Initial build

## Documentation

In order to generate documentation execute:

```
make doc
```

The documentation for API can be viewed by opening '~/3dbar/doc/api/html/index.html' and the documentation for 3dBAR graphic interface can be viewed by opening '~/3dbar/doc/api/html/index.html'.

## CAF datasets

### sba\_DB08

In order to generate CAF dataset sba\_DB08 execute:

```
source setbarenv.sh  
make sba_DB08
```

Generated dataset can be found in '~/3dbar/atlasses/sba\_DB08/caf/' directory.

### sba\_PHT00

In order to generate CAF dataset sba\_PHT00 execute:

```
source setbarenv.sh  
make sba_PHT00
```

Generated dataset can be found in '~/3dbar/atlasses/sba\_PHT00/caf/' directory.

### sba\_WHS09

In order to generate CAF dataset sba\_WHS09 execute:

```
source setbarenv.sh  
make sba_WHS09
```

Generated dataset can be found in '~/3dbar/atlasses/sba\_WHS09/caf/' directory.

### sba\_WHS10

In order to generate CAF dataset sba\_WHS10 execute:

```
source setbarenv.sh  
make sba_WHS10
```

Generated dataset can be found in '~/3dbar/atlasses/sba\_WHS10/caf/' directory.

## **sba\_RM\_on\_F99**

In order to generate CAF dataset sba\_RM\_on\_F99 execute:

```
source setbarenv.sh  
make sba_RM_on_F99
```

Generated dataset can be found in '~/3dbar/atlasses/sba\_RM\_on\_F99/caf/' directory.

## **sba\_LPBA40\_on\_SRI24**

In order to generate CAF dataset sba\_LPBA40\_on\_SRI24 execute:

```
source setbarenv.sh  
make sba_LPBA40_on_SRI24
```

Generated dataset can be found in '~/3dbar/atlasses/sba\_LPBA40\_on\_SRI24/caf/' directory.

## **whs\_0.5**

In order to generate CAF dataset whs\_0.5 execute:

```
source setbarenv.sh  
make whs_0.5
```

Generated dataset can be found in '~/3dbar/atlasses/whs\_0.5/caf/' directory.

## **whs\_0.51**

In order to generate CAF dataset whs\_0.51 execute:

```
source setbarenv.sh  
make whs_0.51
```

Generated dataset can be found in '~/3dbar/atlasses/whs\_0.51/caf/' directory.