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# **Assets**

***Release 0.1***

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Here is the documentation related to **assets** creation, management, distribution.



### 1.1 Introduction

To convert this manual in `texinfo` format follow these steps:

1. Export in DocBook format: File -> Export -> DocBook (XML)
2. Run these commands:

```
$ pandoc -f docbook -t texinfo asset-tutorial.xml | makeinfo -o asset-tutorial.  
→info
```

3. To see the `info` file run:

```
$ info ./asset-tutorial.info
```

### 1.2 Makehuman

#### 1.2.1 Installation

The following steps are performed under an common installation path referred in the `MHPATH` environment variable.

- Clone `makehuman` from source repository into `$MHPATH`:

```
$ cd $MHPATH  
$ git clone https://github.com/makehumancommunity/makehuman.git
```

- Clone `makehumancommunity` plugins from source repositories into `$MHPATH`<sup>12</sup>:

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<sup>1</sup> Currently the `community-plugins-assetedit.git` doesn't work; you could clone this alternative [repository](#) which should correct the issues.

<sup>2</sup> Currently the `community-plugins-assetdownload` may have problems displaying the description table of available assets; you could clone this alternative [repository](#) which should correct the issues.

```
$ cd $MHPATH
$ git clone https://github.com/makehumancommunity/makehuman-plugin-for-blender.git
$ git clone https://github.com/makehumancommunity/community-plugins-assetedit.git
$ git clone https://github.com/makehumancommunity/community-plugins-mhapi.git
$ git clone https://github.com/makehumancommunity/community-plugins-socket.git
$ git clone https://github.com/makehumancommunity/community-plugins-assetdownload.
↪git
$ git clone https://github.com/makehumancommunity/community-plugins-perspective_
↪view.git
$ git clone https://github.com/makehumancommunity/community-plugins-makeclothes.
↪git
$ git clone https://github.com/makehumancommunity/community-plugins-maketarget.git
```

- Clone `mhx2-makehuman-exchange`, `makewalk` and `retarget-bvh` plugins for blender from source repositories into `$MHPATH`:

```
$ cd $MHPATH
$ git clone https://bitbucket.org/Diffeomorphic/mhx2-makehuman-exchange.git
$ git clone https://bitbucket.org/Diffeomorphic/makewalk.git
$ git clone https://bitbucket.org/Diffeomorphic/retarget-bvh.git
```

- Install all the plugins:

```
$ cd $MHPATH/makehuman/makehuman/plugins
$ ln -s $MHPATH/community-plugins-mhapi/1_mhapi .
$ ln -s $MHPATH/community-plugins-assetdownload/8_asset_downloader .
$ ln -s $MHPATH/community-plugins-assetedit/8_asset_editor .
$ ln -s $MHPATH/community-plugins-perspective_view/8_perspective_animation.py .
$ ln -s $MHPATH/community-plugins-socket/8_server_socket .
$ ln -s $MHPATH/mhx2-makehuman-exchange/9_export_mhx2 .
```

To execute makehuman:

```
$ cd $MHPATH/makehuman
$ makehuman/makehuman &
```

The first time is created the directory `$HOME/makehuman` which contains all makehuman's related stuff.

## 1.3 Blender

### 1.3.1 Installation (2.7x)

This installation refers to blender 2.79.

The following configuration steps are performed under the configuration path `$HOME/.config/blender/2.79/scripts/addons` which is referred by the `BPATH` environment variable.

- Get blender either downloading from the [Blender](#) or from the package of a recent debian/ubuntu distribution and install it
- Create the path `$BPATH`

```
$ mkdir -p $BPATH
```

- Install the makehuman's `blendertools` plugins:



```
$ cd $BPATH
$ ln -s $MHPATH/makehuman/blendertools/makeclothes .
$ ln -s $MHPATH/makehuman/blendertools/maketarget .
```

- Install the makehumancommunity's plugin:

```
$ cd $MHPATH/makehuman-plugin-for-blender/blender_distribution
$ unzip MH_Community_for_blender_279.zip
$ mv MH_Community MH_Community279
$ cd $BPATH
$ ln -s $MHPATH/makehuman-plugin-for-blender/blender_distribution/MH_Community279_
↪ .
```

- Install the mhx2-makehuman-exchange and makewalk plugin:

```
$ cd $BPATH
$ ln -s $MHPATH/mhx2-makehuman-exchange/import_runtime_mhx2 .
$ ln -s $MHPATH/makewalk .
```

- Clone and install the panda3d's export plugins (these plugins are cloned into the common path referred by the PPATH environment variable)<sup>3</sup>

```
$ cd $PPATH
$ git clone https://github.com/09th/YABEE.git
$ git clone https://github.com/tobspr/Panda3D-Bam-Exporter.git --recurse-
↪submodules
$ cd $BPATH
$ ln -s $PPATH/YABEE .
$ ln -s $PPATH/Panda3D-Bam-Exporter .
```

- Run blender, open File->User Preferences ... (or Ctrl-Alt-U) and in the Add-ons tab enable all the various installed plugins (they are located in MakeHuman and Import-Export categories).

### 1.3.2 Installation (2.8x)

This installation refers to blender 2.8x.

The following configuration steps are performed under the configuration path \$HOME/.config/blender/2.8x/scripts/addons which is referred by the BPATH28 environment variable.

- Get blender from the [Blender](#) site and install it<sup>4</sup>
- Create the path \$BPATH28

```
$ mkdir -p $BPATH28
```

- Install the makehumancommunity's plugin:

```
$ cd $MHPATH/makehuman-plugin-for-blender/blender_distribution
$ unzip MH_Community_for_blender_280.zip
$ mv MH_Community MH_Community280
$ chmod -R a+X MH_Community280
$ cd $BPATH28
$ ln -s $MHPATH/makehuman-plugin-for-blender/blender_distribution/MH_Community280_
↪ .
```

<sup>3</sup> Currently the Panda3D-Bam-Exporter can be cloned from [here](#).

<sup>4</sup> Currently neither debian and ubuntu have 2.8x version.

- Install the makehuman's blendertools plugins:

```
$ cd $BPATH28
$ ln -s $MHPATH/community-plugins-makeclothes/makeclothes .
$ ln -s $MHPATH/community-plugins-maketarget/maketarget .
```

- Install the mhx2-makehuman-exchange, makewalk and retarget-bvh plugins:

```
$ cd $BPATH28
$ ln -s $MHPATH/mhx2-makehuman-exchange/import_runtime_mhx2 .
$ ln -s $MHPATH/makewalk .
$ ln -s $MHPATH/retarget-bvh .
```

- Clone and install the panda3d's export plugins (these plugins are cloned into the common path referred by the PPATH environment variable)

```
$ cd $PPATH
$ git https://github.com/kergalym/YABEE.git YABEE_28
$ cd $BPATH28
$ ln -s $PPATH/YABEE_28 .
```

- Run blender, open Edit->Preferences... and in the Add-ons tab enable all the various installed plugins (they are prefixed with MakeHuman: and Import-Export:).

## 1.4 Human animations

Some hints for creating human models.

### 1.4.1 Creating humans

In Makehuman download the Motion\_Builder\_Rig rig (after downloading you may need copy/link the files inside \$HOME/makehuman/v1/data/rigs if they don't exist).

Create your model and apply the rig and then export to mhx2 (MakeHuman Exchange) format.

### 1.4.2 Applying animations

In Blender import the model in mhx2 format.

To apply animation follow the instructions as explained at:

- [MakeWalk docs](#) for Blender 2.7x
- [BVH Retargeter docs](#) for Blender 2.8x<sup>5</sup>

## Notes

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<sup>5</sup> [MakeWalk docs](#) site may still have useful hints.

## CHAPTER 2

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### Indices and search

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