

## Introduction

Click&Move® can be installed and operate on many different platforms. Besides a standard Windows OS, a Click&Move project can be ran on a PC or single-board computer with Linux, as well as embedded systems.

This procedure describes the steps to undergo to set up a Linux system to run Click&Move projects.

## Procedure

**Note: This procedure requires access to the internet!**

### Install the Ubuntu 16.04LTS Desktop to your Computer

To use the default Click&Move project settings, create a user name called “*clickandmove*” with the password “*clickandmove*”.

If you installed a 64bit (x64) Linux system, you need to manually install some packages to be able to execute the 32bit binaries that the Click&Move system creates. Open a terminal and type in the following commands:

```
sudo dpkg --add-architecture i386
sudo apt-get update
sudo apt-get install libc6-i386
libstdc++6:i386 libncurses5:i386
```

### Install an FTP Server

In the terminal type in the following command:

```
sudo apt-get update
sudo apt-get install vsftpd
```

Configure the FTP server. In the terminal type in the following command to start a text editor:

```
sudo gedit /etc/vsftpd.conf
```

Search for the following line and change the “=NO” to “=YES” (and uncomment the line):

```
write_enable=YES
```

Restart the FTP server by typing the following command in the console:

```
sudo service vsftpd restart
```

You can check the status of the FTP server using this command:

```
sudo systemctl status vsftpd
```

### Create a Network Connection Between Windows and Linux

Connect your windows PC with the Click&Move development environment installed to the Linux machine using an Ethernet cable and set up the IP addresses of the network devices to be on the same subnet.

For example, set the IP address on the Windows side to **192.168.100.100** and **192.168.100.50** (to be able to use the default Click&Move project settings) on the Linux side. Set the network mask to **255.255.255.0** on both ends. On the Linux side, turn off IPV6 traffic by the “Ignore”. You can verify your settings on the Linux side using the *ifconfig* terminal command.

### Copy the Click&Move Shell to your Machine

Open an FTP client on your PC where you installed the Click&Move development environment. You can do that from the *Tools > Run Ftp Client* menu of the Click&Move desktop.

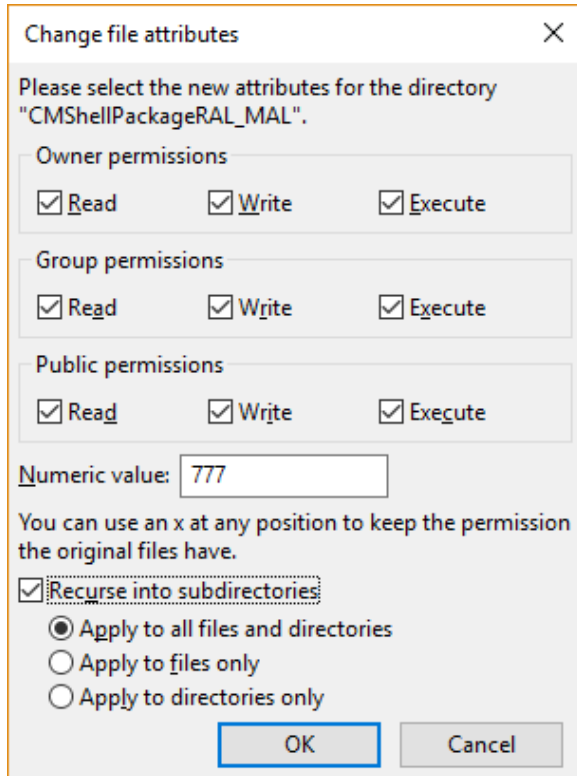
Type in the IP address of your Linux machine, and the username and the password created for that user account. Set the number **21** as the port. Connect to the remote Linux machine.

Create a directory called “*candm*” (to be able to use the default Click&Move project settings) for the Click&Move specific projects on your Linux machine. You can find the CandM shell package in the */System/Services/CMSHell* directory on the Windows PC. Edit and modify the */System/Services/CMSHell/CMSHellPackageGXL\_PCL/Util/cmshell* script file to have the right path to the CandMShell package on your Linux machine. You need to modify only this single line in it:

```
cmshell="/home/clickandmove/candm/CMSHellPackageGXL_PCL"
```

Copy the *CMSHellPackageGXL\_PCL* directory to your remote Linux machine into the “*candm*” directory. Set the necessary file permissions by

right-clicking the directory on the remote end. Select *File permissions* from the pop-up menu. Check the *Recurse into subdirectories* checkbox and set the numeric value to **777**.



### Set the Click&Move Shell to Start Automatically After System Startup

In the Linux terminal copy the prepared *candm/CMSHellPackageGXL\_PCL/cmshell* script file into the */etc/init.d* directory on your Linux machine by executing the following commands:

```
sudo cp
/home/ubuntu/candm/CMSHellPackageGXL_PCL/cmshell /etc/init.d
sudo chown root /etc/init.d/cmshell
```

Create the following soft-links to this script file:

```
cd /etc/rc5.d
sudo ln -s ../init.d/cmshell S05cmshell
cd /etc/rc6.d
sudo ln -s ../init.d/cmshell K01cmshell
```

(The first one will start the CMSHell at boot-up. The second one will close it at shutdown.)

### Restart the Linux Machine

After restart, you can verify if the CMSHell is running by any of the following terminal commands:

```
top
ps aux
```

You should see the *CMSHell* in the appearing list. (Use CTRL+C to exit the *top* utility command.)

After you have verified that your Linux machine works as expected, you can duplicate the system to an additional machine (same CPU, same motherboard, same HDD) by creating an image of the HDD and copying this image to the other computer. You can use *CloneZilla* for this purpose (<http://clonezilla.org>). You can find information on the official website on how to create a bootable pendrive or CDROM and how to create the image.

### Set-up your Click&Move Projects

If you are using a different username, different password, different project path or IP address on your Linux machine than the suggested default ones, you need to make some changes in your project settings. During the development of each Click&Move project you need specify the *IP address* of your remote computer and the *username* and *password* to access the FTP server on that machine in the *Target properties* tab of the */Projects/Options* Click&Move desktop menu. Set the right path to the package of the project in the *Load Path* tab.