

How to Deploy Projects and set FactoryStudio TServer as Service in Linux

Introduction

This document shows how to deploy Projects in Linux through code lines (without graphics image in Ubuntu Server) and too how to initialize the FactoryStudio TServer automatically when Ubuntu is initialized. However, you need a PC as a client for doing the deployment in Linux and make all necessary settings, after it, your Linux Server will keep running.

The solution

Installation and Deploy Ubuntu

We used Putty and FileZilla software to access the Ubuntu Server.

On Ubuntu Server:

```
> sudo apt-get install openssh-server
```

On Computer:

Open putty and connect in Ubuntu Server

Through Putty or Linux Terminal:

commands of the PDF 'How to Deploy Projects on Raspberry Pi or Linux':

```
> sudo apt-key adv --keyserver keyserver.ubuntu.com --recv-keys
3FA7E0328081BFF6A14DA29AA6A19B38D3D831EF

> echo "deb http://download.mono-project.com/repo/debian wheezy
main" | sudo tee /etc/apt/sources.list.d/mono-xamarin.list

> echo "deb http://download.mono-project.com/repo/debian wheezyapache24-compat main" | sudo tee -a /etc/apt
/sources.list.d/monoxamarin.list

> sudo apt-get update
> sudo apt-get upgrade
> sudo apt-get install mono-devel
> sudo apt-get install mono-complete
> sudo apt-get install referenceassemblies-pcl
```

On computer:

Transfer folder "ProjectServer" localized in C:\Program Files (x86)\IoT\ProjectServer .. and transfer to /home/username/ in Server Ubuntu. We used FileZilla software to transfer.

On Putty or Linux Terminal:

install the xvfb with:

```
> sudo apt-get install xvfb
```

Create a screen with command:

```
> screen -S 'screen_name'
```

Use command to run server:

```
> xvfb-run mono /home/username/ProjectServer/ProjectServer.exe
```

Open 'Welcome' in FactoryStudio ->
Create new project with - Product Family: **EdgeGateway**;
Target Framework: **Linux/Mono**

In Welcome -> Server tab -> Remote -> Server Ip -> Connect button -> Update button -> Upload Project, you can choose the project created before

License tab -> Load license key

Projects -> Refresh -> Open project

Run -> Startup -> Run Startup button

If you wish you can run the project via ubuntu server using command:

```
> xvfb-run --auto-servernum --server-num=1 mono  
/home/username/TServer/TServer.exe /Project:project_name.tproj
```

AutoLogin Ubuntu

If your Ubuntu Server have Login and Password and you wish to enter in your Ubuntu server automatically you can do the steps below:

On Putty or Linux Terminal:

```
> sudo systemctl edit getty@tty1.service
```

This will create a drop-in file (if necessary) and open it in an editor. Add the following, replacing **myusername** with your **user name**:

```
[Service]  
ExecStart=  
ExecStart=-/sbin/agetty --noissue --autologin myusername %I $TERM  
Type=idle
```

This will:

Create the folder `/etc/systemd/system/getty@tty1.service.d` if necessary

Create the file `/etc/systemd/system/getty@tty1.service.d/override.conf` if necessary

AutoRun FactoryStudio TServer with Service

When Ubuntu initializes your FactoryStudio TServer will initialize automatically.

On Putty or Linux Terminal:

```
> sudo su
> nano /usr/local/sbin/my-startup.sh
```

You can write the text below to initialize your Server with this command:

```
#!/bin/sh
xvfb-run mono /home/username/ProjectServer/ProjectServer.exe
```

Save it!

After:

```
> chmod +x /usr/local/sbin/my-startup.sh
> nano /etc/systemd/system/my-startup.service
```

You can write the text below:

```
[Unit]
Description=My Startup
[Service]
ExecStart=/usr/local/sbin/my-startup.sh
[Install]
WantedBy=multi-user.target
```

Save it too!

After:

```
> systemctl status my-startup.service
> systemctl enable my-startup.service
> reboot
```

Your Server will be running when Ubuntu initializes!

After rebooting your Server Ubuntu, you can open Welcome of FactoryStudio, 'Server' tab and connect again in "Remote -> Server IP" you can open your project and Run it.

In your FactoryStudio you can open "Trace Window" and you will be able to see information, errors, warnings and debugs of your project.

In Putty you can write "systemctl status my-startup.service" and you will see status of project working.

On the computer, you can keep your project running and close the 'Project Engineering'. In 'Welcome FactoryStudio' you can alter the 'Remote' to 'Local' and when you need to open your project and manage it, you need only access via "remote" again.