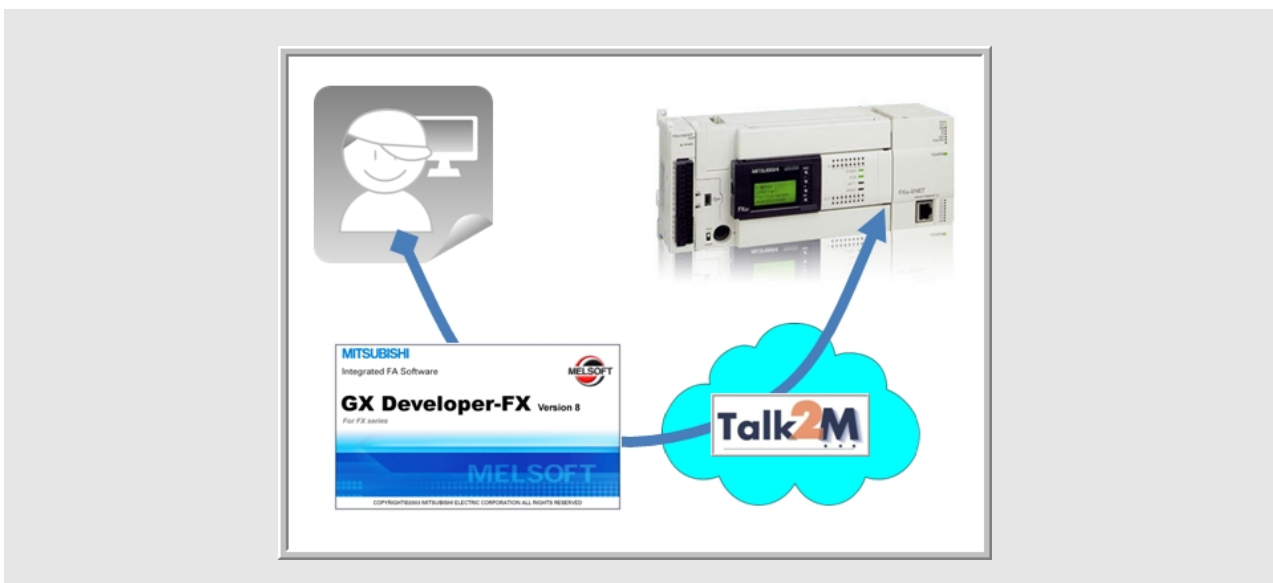


## Access Mitsubishi PLCs through an existing Talk2M connection



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This short guide explains how to access a Mitsubishi PLC remotely through Talk2M and a pre-configured eWON. Applications include remote servicing of PLC-controlled equipment.

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# 1. Objective

The objective of this document is to access remotely an Mitsubishi PLC assuming that configuration tasks have been done (\*).

Accessing an existing setup remotely implies the following steps :

1. Opening the VPN tunnel
2. Mapping the PLC with your Mitsubishi MelSoft GXi software
3. Accessing your PLC through the Internet

(\*) as per AUG-043-0-EN (Remote Access for Mitsubishi PLCs)

<http://support.ewon.biz/docs/AUG-043.htm>

## 2. Hardware and software requirements

### 2.1 Hardware requirements

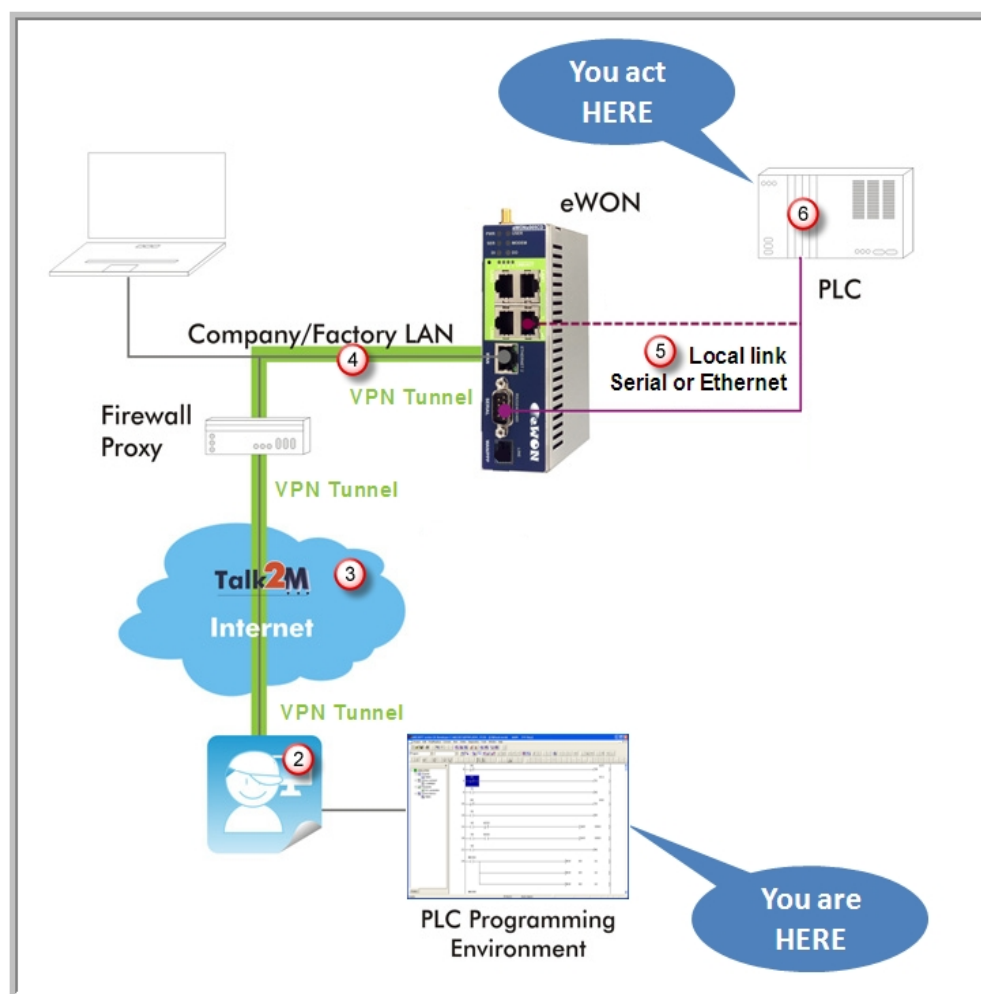
In order to follow this guide you'll need:

- ◆ PC suitable to connect to the Internet
- ◆ Internet connection
- ◆ Configured remote setup including eWON and Mitsubishi PLC (FX or Q Series).

### 2.2 Software requirements

- ◆ **eCatcher** – VPN tunneling utility  
<http://support.ewon.biz/software.htm>
- ◆ **Talk2M** – have a valid user account at disposal
- ◆ **eVCOM** – Virtual com port driver (for serial link only)  
<http://support.ewon.biz/software.htm>
- ◆ **MelSoft GX software** – Mitsubishi PLC programming console

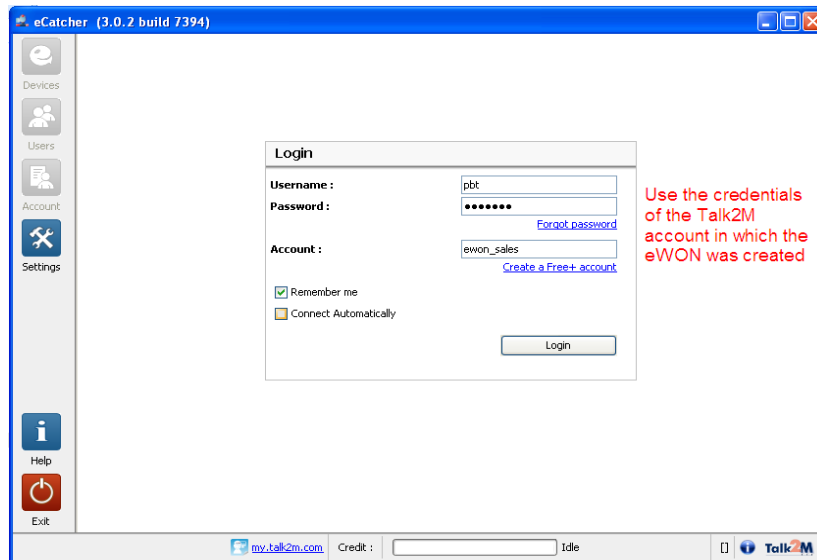
### 3. Network diagram



1. From a computer running your PLC programming software you will interact with a PLC in the field just as if you were using a point-to-point connection
2. Using the local gateway to Internet and the eCatcher software, you will “see” the eWON as part of your local network
3. You will create your VPN tunnel on the Internet using your Talk2M account
4. This will allow you to seamlessly pass the remote firewall and safely reach the eWON using the local LAN
5. The eWON will allow you to access the PLC transparently, indifferently whether it is hooked using the serial or the Ethernet link
6. You take control over the remote PLC

## 4. Opening the VPN tunnel

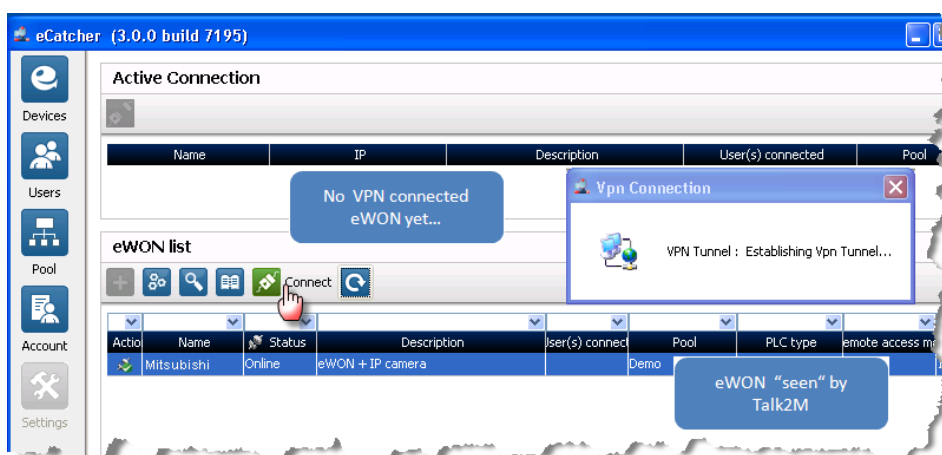
1. Make sure you have installed the eCatcher application from <http://support.ewon.biz/softwares.htm>.
2. Start your eCatcher application, login using the credentials of the Talk2M account in which the eWON was created:



3. The application shows the eWON available for tunneling (\*). At this point you only “see” the ones available on your account but you do not yet have the VPN connection required to access the PLC.

(\*) Only eWON that are “online” (green icon) are “ready” for tunneling. An eWON with no icon or with red icon is not online. It can be either a GPRS/EDGE device that first needs to be waked up or a device that is simply not available for the moment.

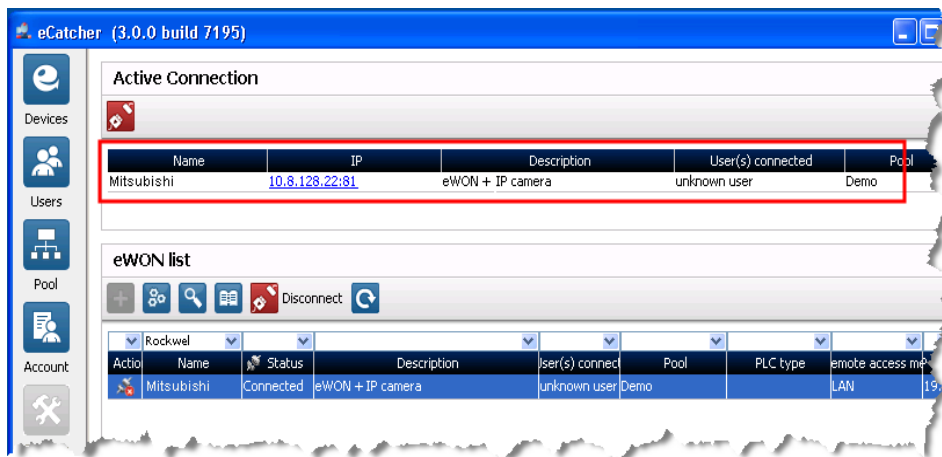
4. Make sure your eWON is “online”, select it and click **Connect** to create the VPN tunnel:



...wait a couple of seconds for Talk2M to create the route. As soon as the route is created, the connected eWON appears in the upper part of the window:

#### 4. Opening the VPN tunnel

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5. You are now connected to the eWON through the VPN tunnel.

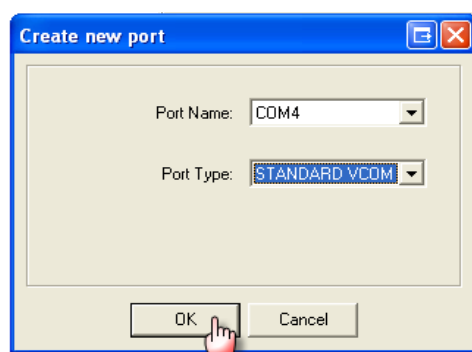
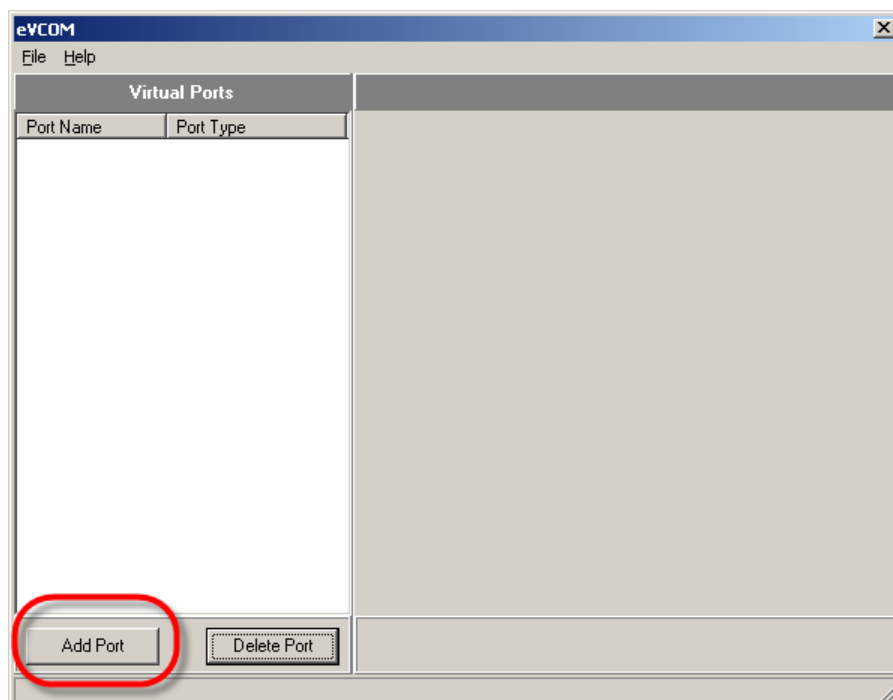
## 5. PLC software mapping configuration

### 5.1 Serial connection

The serial connection with a Mitsubishi PLC requires the creation of a virtual port on your PC. To create this virtual port you need to install the eVCOM application. You can download this application from <http://support.ewon.biz/softwares.htm>.

#### 5.1.1 Creating a virtual serial port on your PC

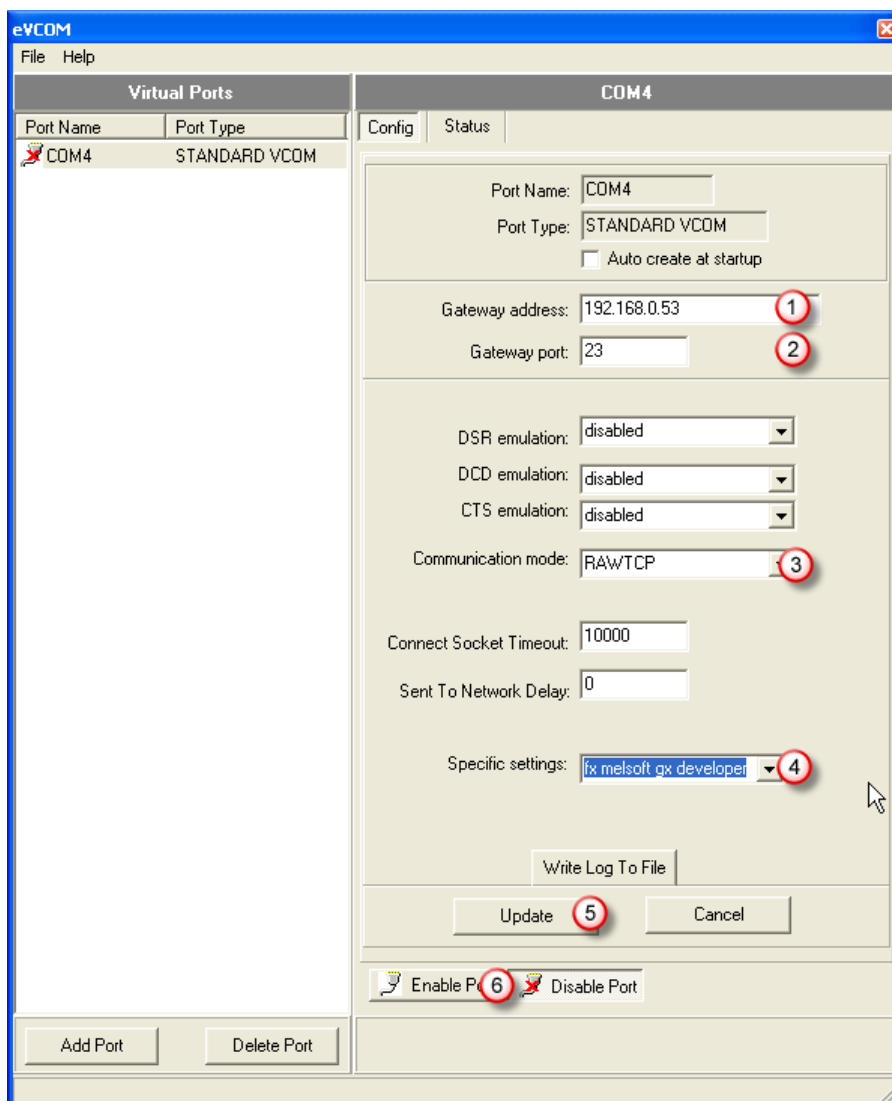
Start eVCOM on your PC and create a new virtual port, by clicking Add Port:



A dialog box invites you to choose the COM Name and the Port Type. In the Port Name dropdown, eVCOM shows only ports that are available on your machine. In our example, we selected **COM4** (to keep away from the normal ports of the machine).

select **STANDARD VCOM** as Port Type and click **OK**.

Configure the virtual port parameters as follows:

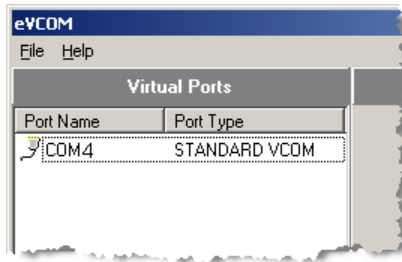


1. The *Gateway address* is the IP address where you can reach the eWON (through Talk2M). If your eWON is on your LAN network, you will use its LAN address, in our example it is 192.168.0.53.
2. Set *Gateway port* to **23**.
3. The *Communication mode* to **RAWTCP**.
4. Set Specific settings to **fx melsoft gx developer**
5. Click **Update**.
6. Click **Enable Port**.







## 5. PLC software mapping configuration

Once enabled, eVCOM will show your new virtual COM port like following:



Key to status icons (left from com port name):

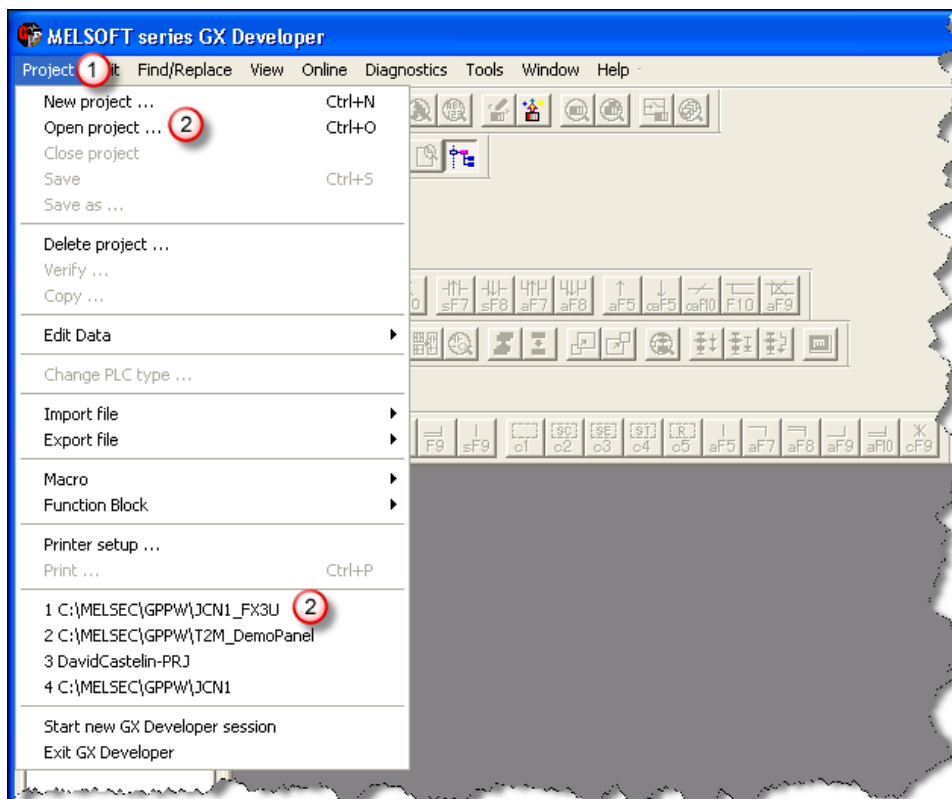
-  enabled
-  disabled
-  communication OK
-  communication with errors

7. Leave eVCOM open, port enabled until you don't need the communication anymore.

Note: If you try to close eVCOM while the virtual port is still enabled, the program asks you if you want to minimize it (all functions active) or if you want to really quit it. If you click on **Really Quit** the software closes the port, retains the existing parameters until you reopen a new session.

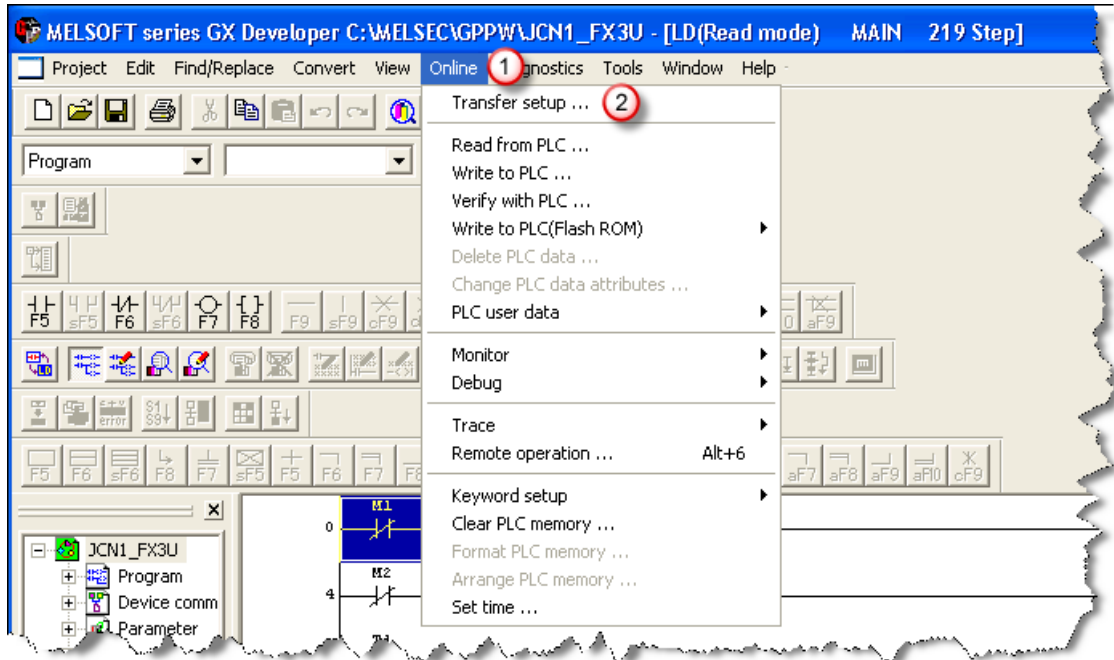
### 5.1.2 Mitsubishi MelSoft GX configuration

1. Open Melsoft GX and open your project.

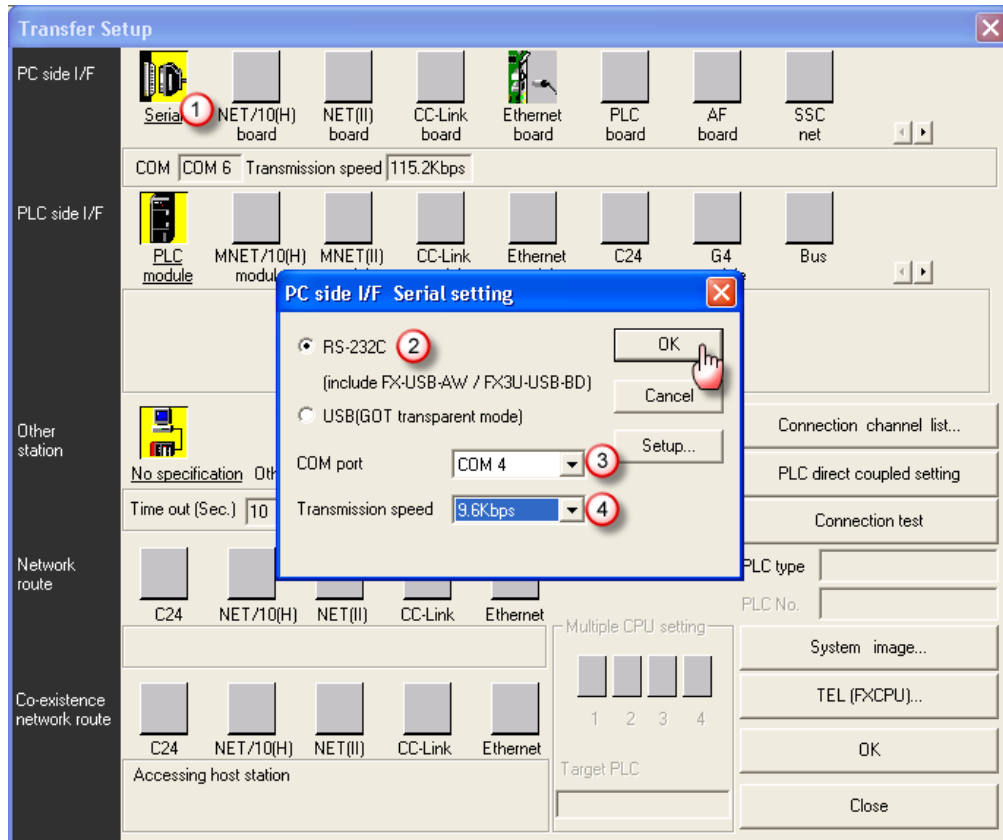


## 5. PLC software mapping configuration

2. Click **Online > Transfer Setup** from the menu bar

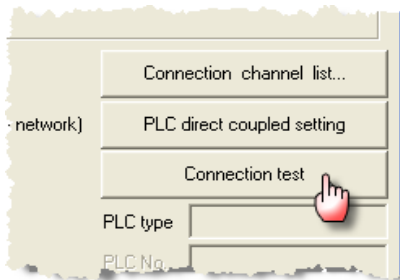


3. Set the serial parameters as shown below and click **OK**.



> In **Transmission speed (4)** put 9.6Kbps

4. Test the connection by clicking **Connection test**.



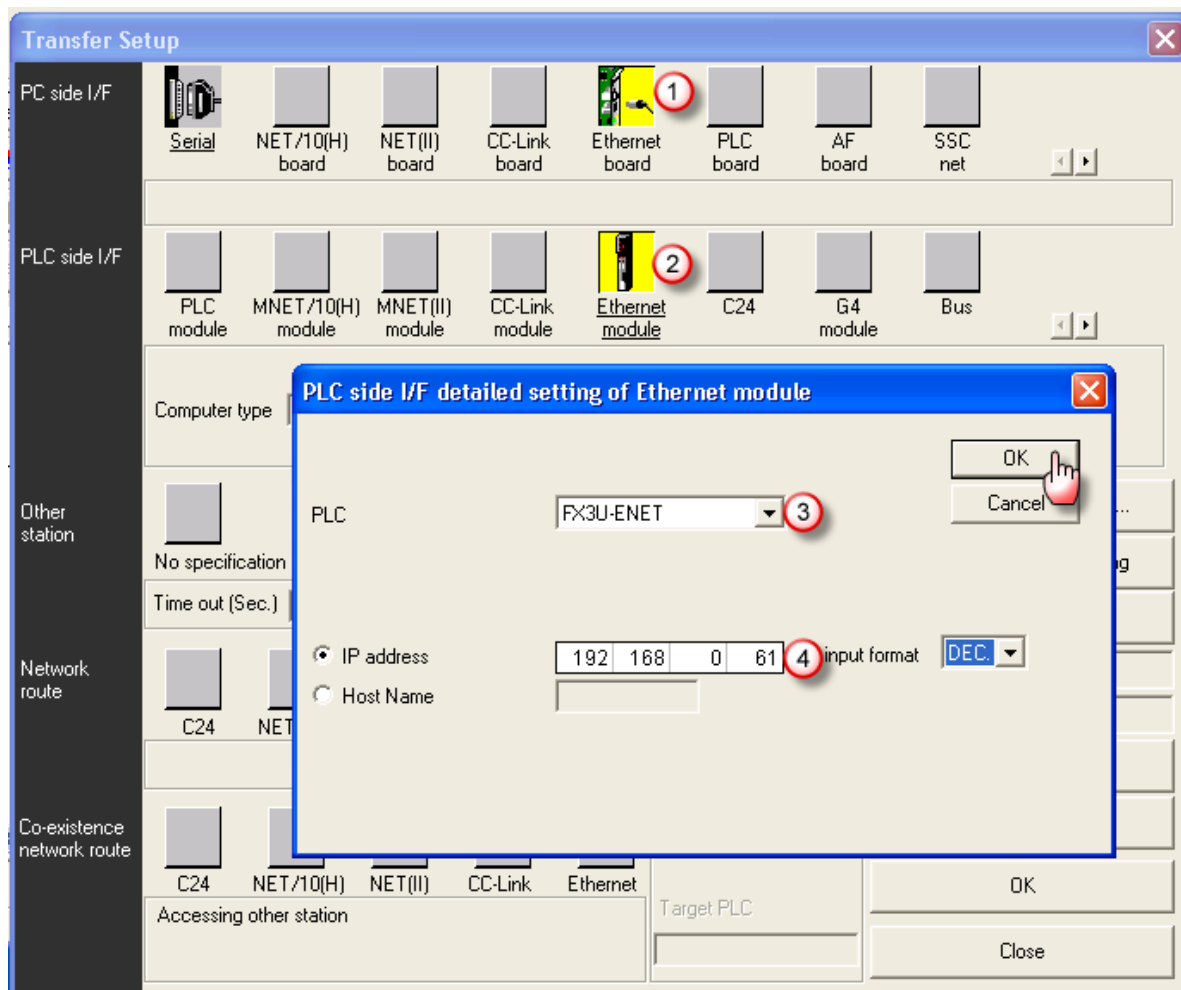
**Note:** To test the communication remotely, you need to establish the Talk2M VPN bridge first (as explained in [Step 6](#)).

5. End of software mapping in serial connection.

## 5.2 Ethernet connection

### 5.2.1 Mitsubishi MeIsoft GX configuration

1. Open Melsoft GX and open your project (as described in § 5.1.2 Mitsubishi MeIsoft GX configuration)
2. Click **Online > Transfer Setup** from the menu bar.
3. Set the Ethernet parameters like shown below and click **OK**



#### **Applicable parameters are:**

**PC side I/F** = just select **Ethernet** board,

**Note:** on some Mitsubishi software versions (like GX IEC), an interface is asking you to define a station number, which is the the station number of the PC that has to be different from the PLC station number.

**PLC side I/F** = Click on **Ethernet module** and configure as shown above:

**PLC** > type of the Ethernet module (normally part of your project)

**IP Address** > IP address of the PLC (in our case 192.168.0.61).

4. Test the connection by clicking **Connection test**.

**Note:** To test the communication remotely, you need to establish the Talk2M VPN bridge first (as explained in [Step 6](#)).

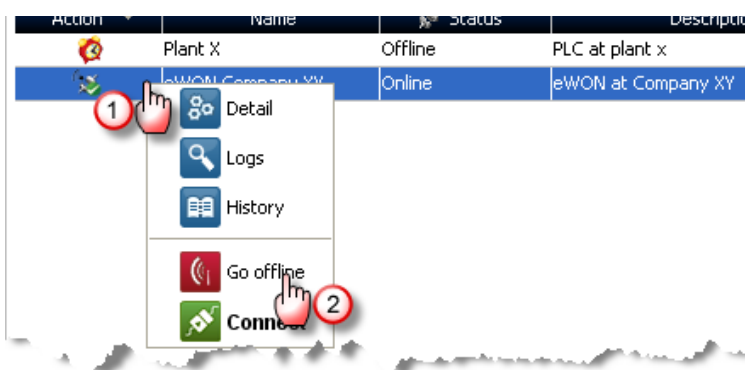
5. End of software mapping in Ethernet connection.

## 6. Accessing your PLC through MelSoft GX

1. Establish the remote connection to the eWON as explained in [Step 6](#) of the eWON configuration part.
2. Once the Talk2M VPN tunnel towards the eWON is established by eCatcher, start the MelSoft GX software.
3. In MelSoft GX select **Online > Remote operation**
4. Allow enough time for the connection to actually take place, especially when using a modem connection since the throughput may be relatively slow.
5. As soon as the connection is working, it appears in the status bar of MelSoft GX.
6. You can now work in remote programming mode.  
Once you finished your work with MelSoft GX:  
- Go Offline and close
7. Once you finished your work with 6. MelSoft GX:
  - Select “Work Offline” and close 6. MelSoft GX
  - Close the Talk2M connection (VPN tunnel) by clicking **Disconnect** in eCatcher.



- **Note:** If the eWON is connected to the Internet using a GPRS/Edge modem, you may want to disconnect it to save connection costs. To close the line, you have to use the **Go offline** button which is displayed on the context menu when you right-click the eWON in the eWON list.



- End of Accessing your PLC through MelSoft GX.

Revision history

<b>Revision Level</b>	<b>Date</b>	<b>Description</b>
1.0	02/12/11	First issue

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Document build number: 15

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