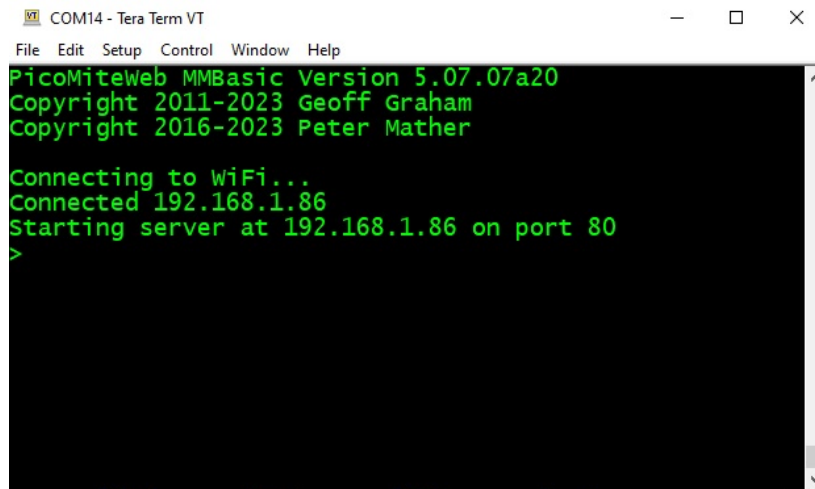


PicoMite W network course

Chapter 5

5.1 Getting your PicoMiteWeb's IP adress

In the past chapters we have discussed how to get the IP adress of your PicoMiteWeb. The IP adress is shown when the PicoMiteWeb is powered up.

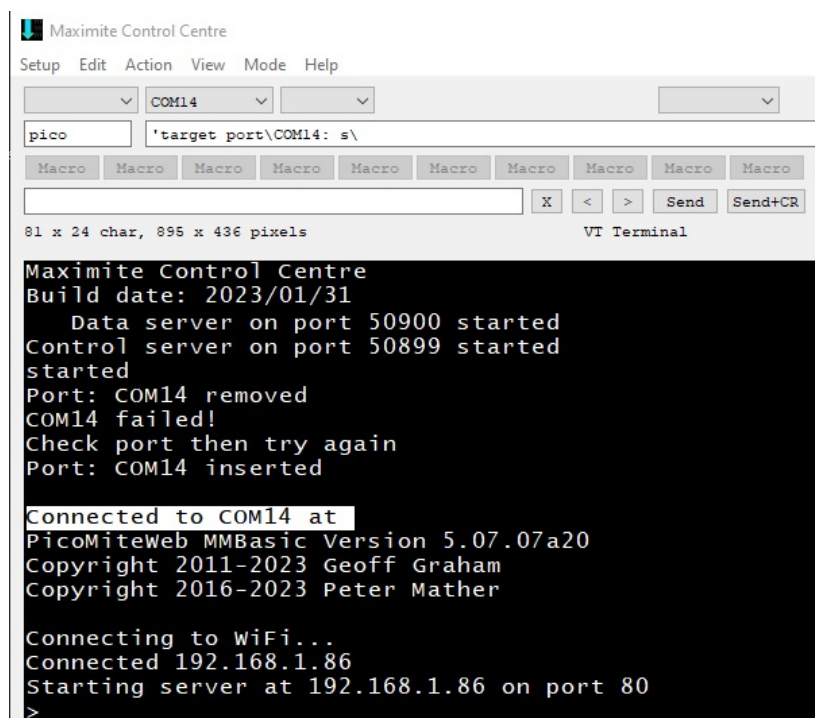


```
COM14 - Tera Term VT
File Edit Setup Control Window Help
PicoMiteWeb MMBasic Version 5.07.07a20
Copyright 2011-2023 Geoff Graham
Copyright 2016-2023 Peter Mather

Connecting to WiFi...
Connected 192.168.1.86
Starting server at 192.168.1.86 on port 80
>
```

If you are using Tera Term for the communication between your computer and PicoMiteWeb this program shows the IP number at the startup of your PicoMiteWeb.

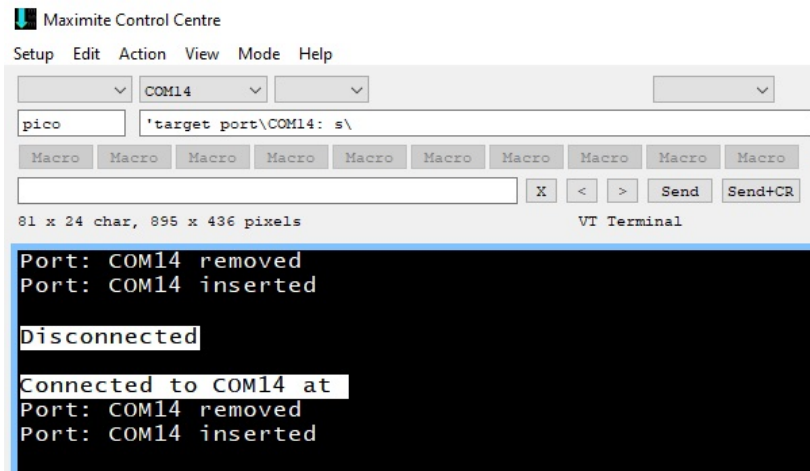
For writing programs and transferring files to the PicoMiteWeb MMEdit is however superior.



```
Maximite Control Centre
Setup Edit Action View Mode Help
COM14
pico 'target port\COM14: s\
Macro Macro Macro Macro Macro Macro Macro Macro Macro Macro
81 x 24 char, 896 x 436 pixels VT Terminal
Maximite Control Centre
Build date: 2023/01/31
Data server on port 50900 started
Control server on port 50899 started
started
Port: COM14 removed
COM14 failed!
Check port then try again
Port: COM14 inserted
Connected to COM14 at
PicoMiteWeb MMBasic Version 5.07.07a20
Copyright 2011-2023 Geoff Graham
Copyright 2016-2023 Peter Mather

Connecting to WiFi...
Connected 192.168.1.86
Starting server at 192.168.1.86 on port 80
>
```

MMEdit also shows the IP number when the PicoMiteWEB is powered up (or reset by a reset button). However it does not always shows the IP number.



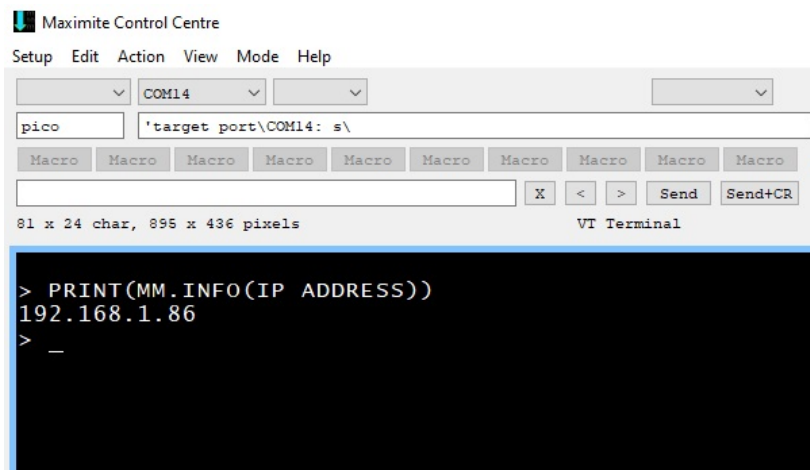
Sometimes there is a bit of a communication flaw at startup and you do not get to see the start information.

Connecting and disconnecting does not help.

In that case you can use a software command to get the IP Adress. The command is:

PRINT (MM. INFO (IP ADDRESS))

Please note that there is a space between IP and ADDRESS.



And there it is.

5.2 NTP Timeout Error

There was a mention from a user on the forum that he constant got an error message from the NTP server. The error was a timeout. Meaning that PicoMiteWeb did not get an answer from the NTP server.

When this happens the program stops.

User TassyJim posted a solution for this problem.

A few lines that you can put at the start of your program.

```
' NTP Timeout loop by TassyJim
n = 0
DO
  DATE$ = "01-04-2000"
  ON ERROR SKIP
  WEB ntp 11
  IF DATE$ = "01-04-2000" THEN PRINT "OOPS!"
  INC n
LOOP UNTIL DATE$ <>"01-04-2000" OR n > 4
```

The program starts with setting the date to 01-04-2000.

The line ON ERROR SKIP skips the next program line if that throws an error. That next line is WEB ntp 11.

If the NTP server throws an error that is ignored and the next line is executed. If the date then still is 01-04-2000 “OOPS” is printed and the counter n is incremented by one.

The loop continues until the date is received from the NTP server and therefore no longer is 01-04-2000 or the counter gets larger then 4.

Don't forget to change the number 11 in **WEB ntp 11** to the number necessary for your timezone.

Simple but clever.

5.3 New TCP command for the webserver

Things evolve and often faster as the writer of this course notices. The developer of the PicoMiteWeb introduced a new command for starting the webserver. In the previous chapter we started the webserver as follows:

```
Do
  poll
Loop
```

and then we had a subroutine called poll

```
Sub poll
..
..
..
End Sub
```

The new command structure is as follows:

```
WEB tcp interrupt subrourinename
```

```
Do
'Here comes some code
Loop
```

```
Sub subrourinename
..
..
..
End Sub
```

So basically poll has changed in **WEB tcp interrupt subrourinename**
Put this command at the start of your program just after the part where the IP address is obtained.

And subrourinename is the name of the subroutine the command calls.

According to Peter this is more robust as the previous version.

The command is an activation of an interrupt. So it constantly waits for a signal from the tcp port. When something arrives (like a request for the webpage) the interrupt is activated and runs the subroutine.

This is the only thing you need to change in the program from chapter 4.

For completeness I hereby give you the complete program from chapter 4 with some minor changes. I renamed the subroutine name poll to serverstart.

```
Dim buff%(512)
WEB ntp 1
PRINT
PRINT "Your IP address is : " + MM.Info(ip address)

WEB tcp interrupt serverstart

Do
Loop

Sub serverstart
Local p%, t%
For a%=1 To MM.Info(MAX connections)
    LongString CLEAR buff%()
    WEB tcp READ a%,buff%()edit

    p%=LInStr(buff%(),"GET")
    t%=LInStr(buff%(),"HTTP")
    s$=""
    If (p%<>0) And (t%<>0) And (t%>p%) Then
        s$=LGetStr$(buff%(),p%,t%-p%+4)
        Print "String is ",s$
    EndIf
    If Instr(s$,"HTTP") Then
        Print "sending page"
        WEB transmit PAGE a%,"second.html"
    EndIf
Next a%
End Sub
```

I will highlight the changes here:

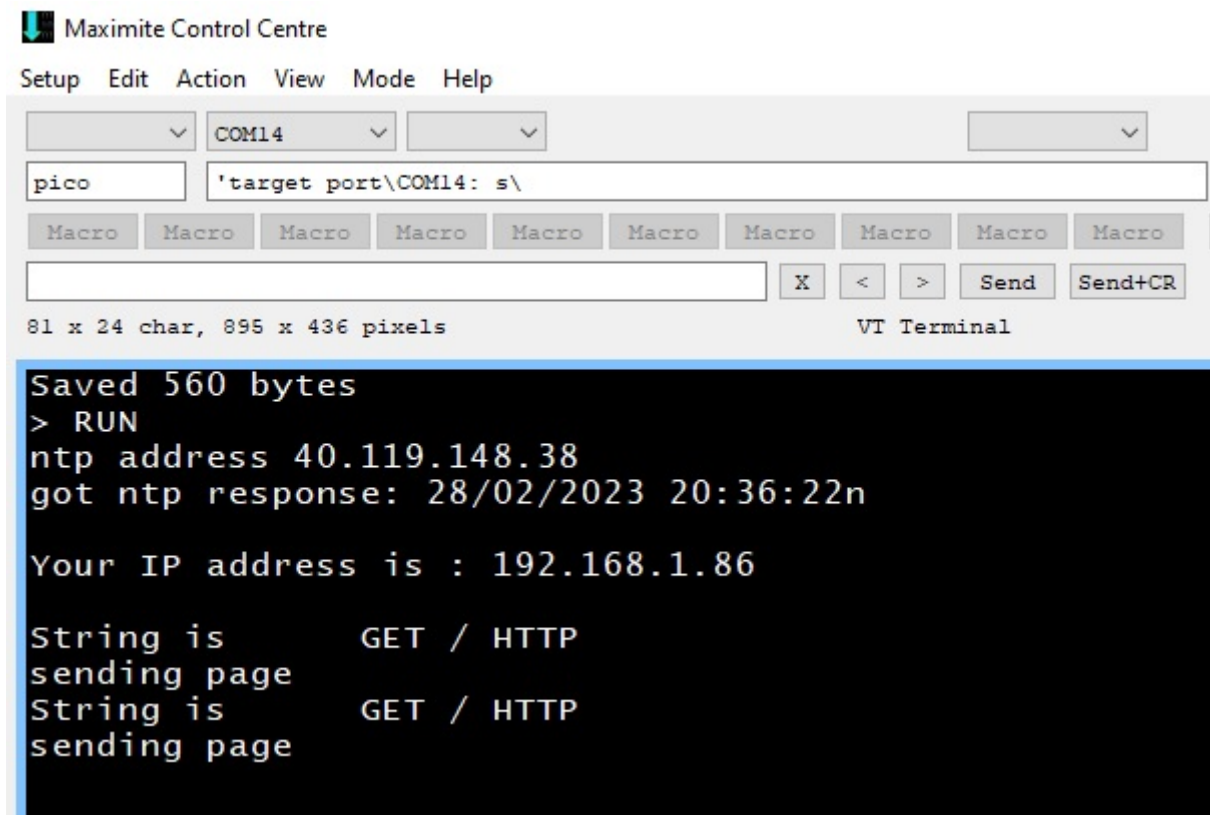
```
PRINT
PRINT "Your IP address is : " + MM.Info(ip address)
```

These lines are added so you will see the IP address in Tera Term or the Maximite Control Centre from MMEdit.

```
WEB tcp interrupt serverstart
```

This is the line that starts the webserver.

The name of the subroutine is serverstart and the rest of the program is unchanged.



The screenshot shows the Maximite Control Centre interface. At the top, there is a menu bar with 'Setup', 'Edit', 'Action', 'View', 'Mode', and 'Help'. Below the menu, there are several dropdown menus, one of which is set to 'COM14'. A text input field contains the filename 'pico' and the target port path ''target port\COM14: s\'. Below this, there are several 'Macro' buttons and a row of control buttons including 'X', '<', '>', 'Send', and 'Send+CR'. The terminal window displays the following output:

```
81 x 24 char, 895 x 436 pixels          VI Terminal

Saved 560 bytes
> RUN
ntp address 40.119.148.38
got ntp response: 28/02/2023 20:36:22n

Your IP address is : 192.168.1.86

String is      GET / HTTP
sending page
String is      GET / HTTP
sending page
```

And this is how it looks when your program runs in MMEdit. You can clearly see the IP address so you can copy it and put in your browser to immediately see the webpage.