



## FAQ GMSplus How to Use as NTP Client ¶

### 1. Introduction

- This procedure describes how to set a GMSplus as NTP client.  
It will allow the GMSplus to synchronize its time with a NTP server.

### 2. Required Tools

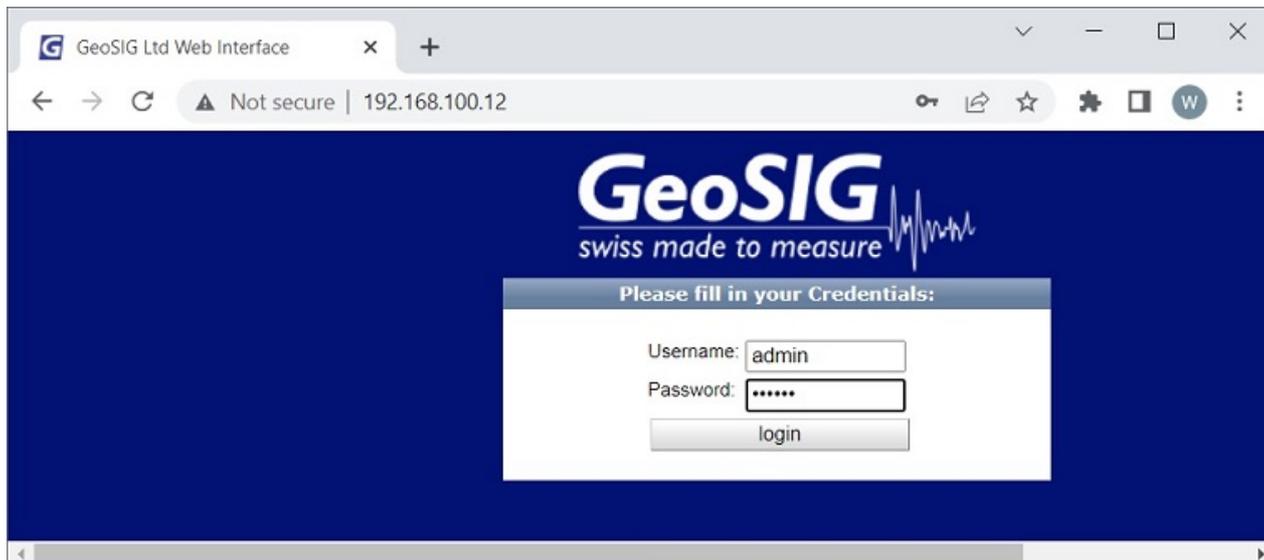
- GMSplus with network connection
- Domain or IP address of a NTP server.  
It can be a public server (see e.g. pool.ntp.org), a dedicated server in your network (check with your network admin) or a GMSplus with a GPS configured as NTP server ([http://www.geosig.com/files/FAQ\\_GMSplus\\_How\\_to\\_Use\\_as\\_NTP\\_Server.pdf](http://www.geosig.com/files/FAQ_GMSplus_How_to_Use_as_NTP_Server.pdf))

### 3. Enter NTP server in GMSplus config

- The NTP server can either be entered through the webinterface (3.1) or from GMSplus serial console (3.2)

#### 3.1 Enter NTP Server through Webinterface

- Open your webbrowser, enter the IP address of your GMSplus and login as admin (default password 123456)



- Choose tab **Configuration** and click **Miscellaneous Parameters**

**Main menu**

Station description	<input type="text" value="GMSplus (6ch) - GeoSIG Ltd"/>	
Station code	<input type="text" value="GSGMS"/>	
Location description	<input type="text" value="Switzerland"/>	
Seismic network code	<input type="text" value="GS"/>	
Number of Channels	<input type="text" value="3"/>	
Number of Output Streams	<input type="text" value="1"/>	
Number of Trigger Sets	<input type="text" value="2"/>	
Number of Preset Triggers	<input type="text" value="0"/>	
Channel Parameters	<input type="button" value="&gt;&gt;"/>	
Stream Parameters	<input type="button" value="&gt;&gt;"/>	
Trigger Parameters	<input type="button" value="&gt;&gt;"/>	
File Storage and Policy	<input type="button" value="&gt;&gt;"/>	
Communication Parameters	<input type="button" value="&gt;&gt;"/>	
Miscellaneous Parameters	<input type="button" value="&gt;&gt;"/>	
Station Location	<input type="button" value="&gt;&gt;"/>	
GeoSIG Options	<input type="button" value="&gt;&gt;"/>	

- Click **Time synchronization**

Home Configuration Status and Maintenance Data Explorer Help Logout **GeoSIG**  
swiss made to measure

Data Acquisition Configuration Manager Network Web Interface

Main menu | Miscellaneous

Offset detection time, sec	<input type="text" value="10"/>	
Offset correction time, sec	<input type="text" value="5"/>	
Offset correction counts	<input type="text" value="1"/>	
MiniSEED record length	<input type="text" value="512"/>	
Extended MiniSEED format	<input checked="" type="checkbox"/>	
State of health	<input type="button" value="&gt;&gt;"/>	
Test configuration	<input type="button" value="&gt;&gt;"/>	
Messaging and debugging	<input type="button" value="&gt;&gt;"/>	
Time synchronization	<input type="button" value="&gt;&gt;"/>	
Instrument configuration options	<input type="button" value="&gt;&gt;"/>	
Time for sending daily logfile, hour	<input type="text" value="0"/>	
Time for sending daily logfile, minute	<input type="text" value="0"/>	

Device type: GMSplus Device date and time: Sun Sep 10 20:58:40 2023 Device State Summary  Context Help   
Serial number: 102833 Station description: GMSplus (6ch) - GeoSIG Ltd  
Station code: GS.GSGMS

- Choose Time source **NTP** from the dropdown
- Enter the IP or domain of your primary NTP server
- Enter the IP or domain of your secondary NTP server (enter the primary NTP server again if you don't have a secondary)

## Main menu | Miscellaneous | Time Synchronization

Time source	NTP	
NTP server 1	192.168.100.12	
NTP server 2	1.ch.pool.ntp.org	
NTP server query interval, sec	20	
NTP requests in a row	4	
NTP query intervals per RTC update	1	
NTP synchronisation timeout warning, min	240	
NTP synchronisation timeout error, hours	12	
NTP maximum error, sec	0.2	
RTC watchdog timeout, sec	1200	
Send SOH upon RTC status change	<input type="checkbox"/>	
Offset to UTC, minutes	0	

[Back](#)[Load from Device](#)[Save Changes](#)[Apply and Restart](#)

Device type: GMSplus    Device date and time: Sun Sep 10 21:07:26 2023  
Serial number: 102833    Station description: GMSplus (6ch) - GeoSIG Ltd  
Station code: GS.GSGMS

[Device State Summary](#)[Context Help](#)

- Click **Apply and Restart** and confirm the pop-up with **Yes** to apply the changes

Home Configuration Status and Maintenance Data Explorer Help Logout

GeoSIG  
swiss made to measure

Data Acquisition Configuration Manager Network Web Interface

Main menu | Miscellaneous | Time Synchronization

Time source	NTP	i
NTP server 1	192.168.100.12	i
NTP server 2	1.ch.pool.ntp.org	i
NTP server query interval, sec	20	i
NTP requests in a row	4	i
NTP query intervals per RTC update	1	i
NTP synchronisation timeout warning, min		i
NTP synchronisation timeout error, hours		i
NTP maximum error, sec	0.2	i
RTC watchdog timeout, sec	1200	i
Send SOH upon RTC status change	<input type="checkbox"/>	i
Offset to UTC, minutes	0	i

Apply and Restart  
Apply updated configuration and restart the instrument?  
Yes No

Back Load from Device Save Changes Apply and Restart

Device type: GMSplus Device date and time: Sun Sep 10 21:44:19 2023 Device State Summary  Context Help i  
 Serial number: 102833 Station description: GMSplus (6ch) - GeoSIG Ltd  
 Station code: GS.GSGMS

### 3.2 Enter NTP Server from GMSplus Serial Console

- Connect to the serial console of your GMSplus
- Press **C** to enter the configuration menu and press **C** again to edit current configuration

uCon

File Edit View Config Logging Scripts Servers Transfer uMon Help

-- F2 -- -- F3 -- -- F4 -- -- F5 -- -- F6 -- -- F7 -- -- F8 -- -- F9 --  
 --B1-- --B3-- --B5-- --B7-- --B9-- --B11-- --B13-- --B15--  
 --B2-- --B4-- --B6-- --B8-- --B10-- --B12-- --B14-- --B16--

```
GMSplus s/n 102833 version 21.12.29
Main menu:
C - Configuration
M - Messages
S - Shell command
L - List firmware images
N - List network tunnels
X - Display errors (0) and warnings (0)
W - Clear errors and warnings
F - View/reset RTC trim values
T - File statistics
G - View RTC status
A - View Alarm status
P - View GPS information
H - Set RTC time
U - User request
R - Restart
Q - Quit
c

Please select a configuration to edit: (A)ctive, (C)urrent or (F)ile ....> C
```

PLINK 192.168.100.12 TELNET SRVR OFF MYIP: 192.168.100.11 ROW/COL: 24/91 XFER: Idle

- Press **O** to enter Miscellaneous Parameters

```

uCon
File Edit View Config Logging Scripts Servers Transfer uMon Help
--F2-- --F3-- --F4-- --F5-- --F6-- --F7-- --F8-- --F9--
--B1-- --B3-- --B5-- --B7-- --B9-- --B11-- --B13-- --B15--
--B2-- --B4-- --B6-- --B8-- --B10-- --B12-- --B14-- --B16--
21:14:20.786 Checking configuration...
21:14:20.792 File /media/mncblk0p1/Logfiles/SOH_102833_20230903_041708.xml deleted after tr
ansmission
21:14:20.865 Loading and analysing configuration (takes a few moments)...
21:14:20.935 Configuration config.xml has been loaded
Main Menu
A) Station description ..... GMSplus (6ch) - GeoSIG Ltd
B) Station code ..... GSGMS
C) Location description ..... Switzerland
D) Seismic network code ..... GS
E) Number of Channels ..... 3
F) Number of Output Streams ..... 1
G) Number of Trigger Sets ..... 2
H) Number of Preset Triggers ..... 0
I) Channel Parameters ..... ->
J) Stream Parameters ..... ->
K) Trigger Parameters ..... ->
M) File Storage and Policy ..... ->
N) Communication Parameters ..... ->
O) Miscellaneous Parameters ..... ->
P) Station Location ..... ->
S) GeoSIG Options ..... ->
Select <A>...<S>. <Esc> to exit o
PLINK 192.168.100.12 TELNET SRVR OFF MYIP: 192.168.100.11 ROW/COL: 24/91 XFER: Idle

```

- Press **K** to enter Time synchronization

```

uCon
File Edit View Config Logging Scripts Servers Transfer uMon Help
--F2-- --F3-- --F4-- --F5-- --F6-- --F7-- --F8-- --F9--
--B1-- --B3-- --B5-- --B7-- --B9-- --B11-- --B13-- --B15--
--B2-- --B4-- --B6-- --B8-- --B10-- --B12-- --B14-- --B16--
Main Menu | Miscellaneous
A) Offset detection time, sec ..... 10 (0x0A)
B) Offset correction time, sec ..... 5 (0x05)
C) Offset correction counts ..... 1 (0x01)
D) MiniSEED record length ..... 512
E) Extended MiniSEED format ..... Yes
H) State of health ..... ->
I) Test configuration ..... ->
J) Messaging and debugging ..... ->
K) Time synchronization ..... ->
L) Instrument configuration options ..... ->
M) Time for sending daily logfile, hour ..... 0 (0x00)
N) Time for sending daily logfile, minute ... 0 (0x00)
Select <A>...<N>. <Esc> back to Main Menu k
PLINK 192.168.100.12 TELNET SRVR OFF MYIP: 192.168.100.11 ROW/COL: 15/91 XFER: Idle

```

- Press **A** until Time source shows **NTP**

```
uCon
File Edit View Config Logging Scripts Servers Transfer uMon Help
--F2-- --F3-- --F4-- --F5-- --F6-- --F7-- --F8-- --F9--
--B1-- --B3-- --B5-- --B7-- --B9-- --B11-- --B13-- --B15--
--B2-- --B4-- --B6-- --B8-- --B10-- --B12-- --B14-- --B16--
K
Main Menu | Miscellaneous | Time Synchronization
A) Time source ..... NTP
I) NTP server 1 ..... 192.168.100.12
J) NTP server 2 ..... 1.ch.pool.ntp.org
K) NTP server query interval, sec ..... 20 (0x14)
L) NTP requests in a row ..... 4 (0x04)
M) NTP query intervals per RTC update ..... 1 (0x01)
N) NTP synchronisation timeout warning, min ... 240 (0xF0)
O) NTP synchronisation timeout error, hours ... 12 (0x0C)
P) NTP maximum error, sec ..... 0.2
T) RTC watchdog timeout, sec ..... 1200 (0x4B0)
U) Send SOH upon RTC status change ..... No
X) Offset to UTC, minutes ..... 0 (0x00)
Select <A>...<X>. <Esc> back to Main Menu | Miscellaneous a
PLINK 192.168.100.12 TELNET SRVR OFF MYIP: 127.56.49.53 ROW/COL: 16/73 XFER: Idle
```

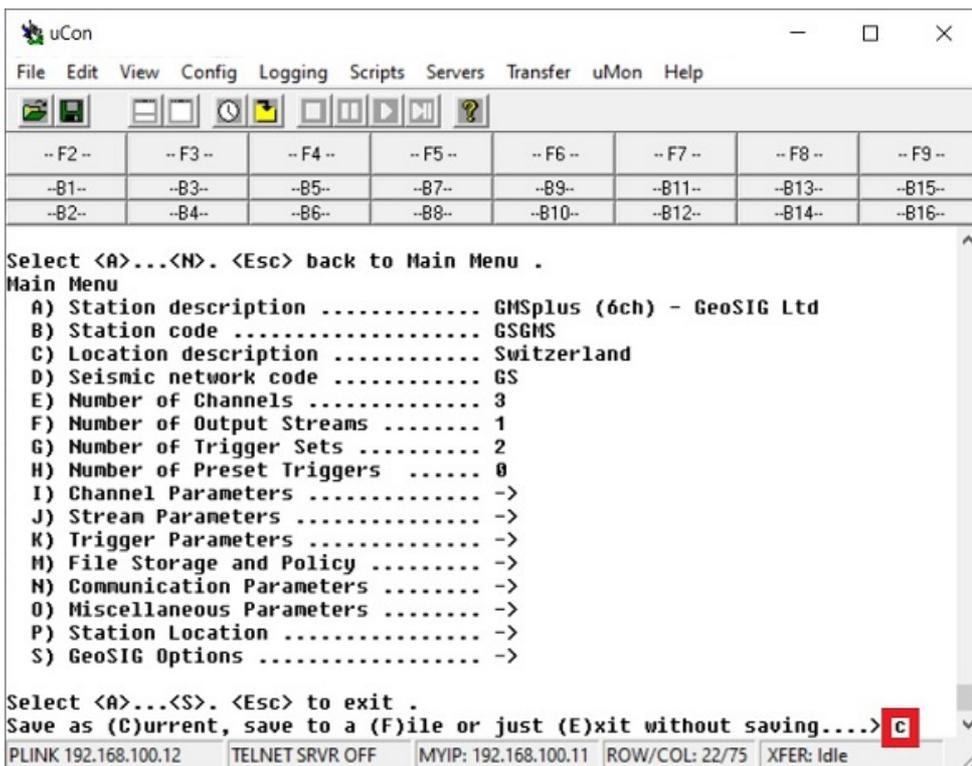
- Press **I** to enter the IP or domain of your primary NTP server

```
uCon
File Edit View Config Logging Scripts Servers Transfer uMon Help
--F2-- --F3-- --F4-- --F5-- --F6-- --F7-- --F8-- --F9--
--B1-- --B3-- --B5-- --B7-- --B9-- --B11-- --B13-- --B15--
--B2-- --B4-- --B6-- --B8-- --B10-- --B12-- --B14-- --B16--
K
Main Menu | Miscellaneous | Time Synchronization
A) Time source ..... NTP
I) NTP server 1 ..... 192.168.100.12
J) NTP server 2 ..... 1.ch.pool.ntp.org
K) NTP server query interval, sec ..... 20 (0x14)
L) NTP requests in a row ..... 4 (0x04)
M) NTP query intervals per RTC update ..... 1 (0x01)
N) NTP synchronisation timeout warning, min ... 240 (0xF0)
O) NTP synchronisation timeout error, hours ... 12 (0x0C)
P) NTP maximum error, sec ..... 0.2
T) RTC watchdog timeout, sec ..... 1200 (0x4B0)
U) Send SOH upon RTC status change ..... No
X) Offset to UTC, minutes ..... 0 (0x00)
Select <A>...<X>. <Esc> back to Main Menu | Miscellaneous a
PLINK 192.168.100.12 TELNET SRVR OFF MYIP: 127.56.49.53 ROW/COL: 16/73 XFER: Idle
```

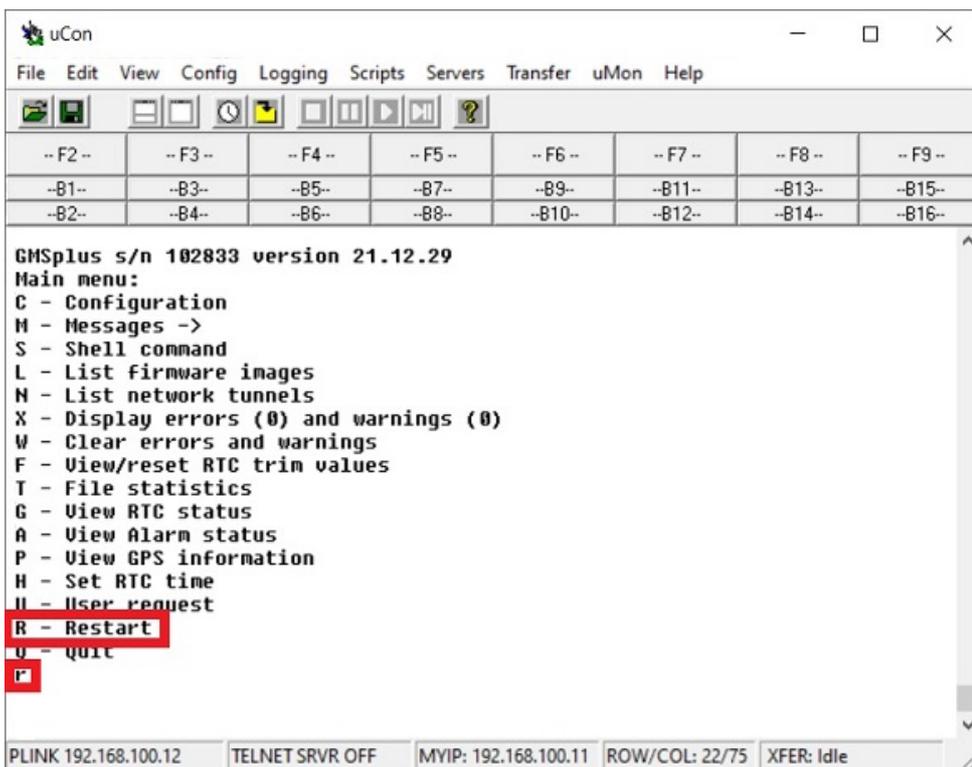
- Press **J** to enter the IP or domain of your secondary NTP server (enter the primary NTP server again if you don't have a secondary)

```
uCon
File Edit View Config Logging Scripts Servers Transfer uMon Help
--F2-- --F3-- --F4-- --F5-- --F6-- --F7-- --F8-- --F9--
--B1-- --B3-- --B5-- --B7-- --B9-- --B11-- --B13-- --B15--
--B2-- --B4-- --B6-- --B8-- --B10-- --B12-- --B14-- --B16--
K
Main Menu | Miscellaneous | Time Synchronization
A) Time source ..... NTP
I) NTP server 1 ..... 192.168.100.12
J) NTP server 2 ..... 1.ch.pool.ntp.org
K) NTP server query interval, sec ..... 20 (0x14)
L) NTP requests in a row ..... 4 (0x04)
M) NTP query intervals per RTC update ..... 1 (0x01)
N) NTP synchronisation timeout warning, min ... 240 (0xF0)
O) NTP synchronisation timeout error, hours ... 12 (0x0C)
P) NTP maximum error, sec ..... 0.2
T) RTC watchdog timeout, sec ..... 1200 (0x4B0)
U) Send SOH upon RTC status change ..... No
X) Offset to UTC, minutes ..... 0 (0x00)
Select <A>...<X>. <Esc> back to Main Menu | Miscellaneous a
PLINK 192.168.100.12 TELNET SRVR OFF MYIP: 127.56.49.53 ROW/COL: 16/73 XFER: Idle
```

- Press **Esc** followed by **ENTER** and again **Esc** followed by **ENTER** to get back to the main menu
- Press **Esc** to exit the menu
- Press **C** to save the configuration as "current"



- In the main menu, press **R** followed by **Enter** to restart the instrument



- After the restart, the configuration changes are applied
- Make sure that SOH status of the time sync shows **Locked** (can take several minutes)