

Downloading the MXL Client Application

The MXL ground station client application lets you view the data content of beacons received from MXL satellites, and sends beacon and downlink data back to MXL's servers so we can track the status of the satellite and downlink more data per day than we could alone. This 5-step visual guide shows how to register on our dataserver and download the client application.

For corrections to this guide or to report server outages, please send mail to MXLab-HAMs@umich.edu and we'll try to respond as quickly as possible.

The screenshot displays the MXL Ground Station Client application window. The title bar reads "MXL Ground Station Client" and the menu bar includes "File", "View", "Server", and "Update Token". The main content area is divided into several panels, each showing a table of sensor data with columns for Name, Value, and Unit.

Summary Panel

EPS		
Name	Value	Unit
Battery Tempera...	23.0368	degC
Battery Current	-0.012	A
Battery Voltage	3.2346	V
Battery Bus Curr...	0.014	A
5V Bus Voltage	4.9921	V
5V Bus Current	0.018	A
3.3V Bus Voltage	3.313	V
3.3V Bus Current	0.125	A
Output Regulato...	26.0308	degC
Channel 1 output...	0.001	A
Channel 2 output...	0.104	A
Channel 3 output...	0.001	A
Channel 4 output...	0.001	A
EPS IOE STATE	1	N/A
EPS IOE MODE	252	N/A

FCPU		
Name	Value	Unit
FCPU 3V3 Voltage	3.316	V
FCPU 3V3 Current	33.2	mA
FCPU TEMP 0	24.3118	deg C
Datamnt Usage	11.612	MB
SD Usage	104.951	MB
ADCS Enable Sta...	1	
freeMem	42120	kB
rotMem	126904	kB
lastProcessPID	20424	
rotNumProcesses	35	
curNumRunnable...	1	
avgNumActiveTa...	0.09	
avgNumActiveTa...	0.14	
avgNumActiveTa...	0.15	
RTC Unix Time	149870	sec
NumResets	14	


MARINA		
Name	Value	Unit
Marina GPIO stat...	76	raw
Marina Complete...	1	raw
Marina Aborted ...	0	raw
MARINA VBATT V...	0	V
MARINA VBATT C...	0	A
MARINA Tempera...	24.1176	deg C
MARINA 2.5V Volt...	0	V
MARINA 1.0V Volt...	0	V
MARINA exit status	0	raw

RADIO		
Name	Value	Unit
LI VBATT Current	1.3	mA
LI 3V3 Current	15.9	mA
LI 3V3 Voltage	3.313	V
Lithium #TX	3347360	Bytes
Lithium #RX	288	Bytes
Lithium MSP430 ...	22	deg C
Lithium RSSI	104	dBm
Lithium Op Count	25658	

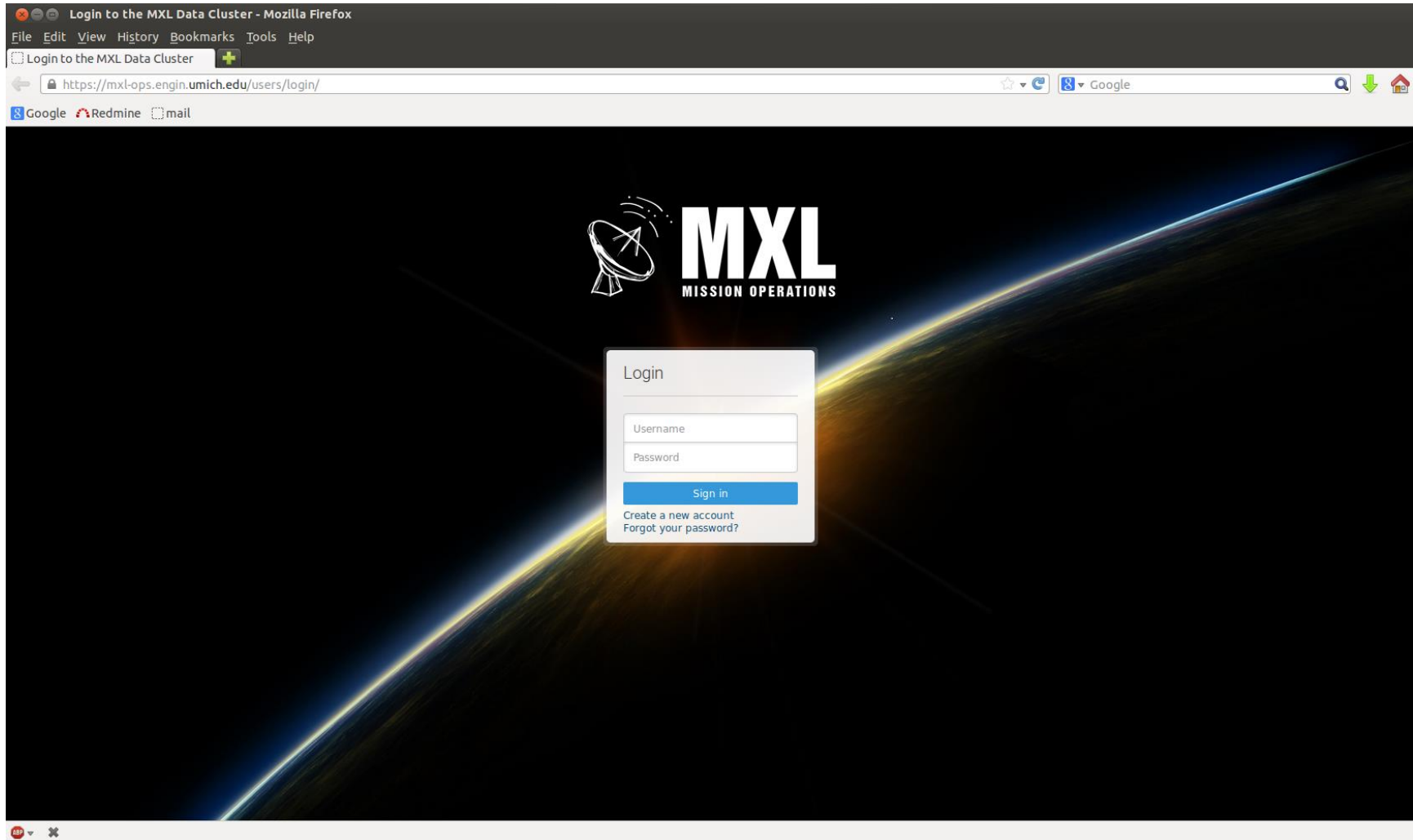
SOLAR		
Name	Value	Unit
-X MAG X	0.5434	Gauss
-X MAG Y	0.2374	Gauss
-X MAG Z	-0.0502	Gauss
+Y internal temp...	154.06...	deg C
+Y external tem...	154.06...	deg C
+X internal temp...	154.06...	deg C
+X external tem...	154.06...	deg C
-Y internal tempe...	154.06...	deg C
-Y external temp...	154.06...	deg C
-X internal tempe...	22.6372	deg C
-X external temp...	22.9508	deg C
-X Photodiode	0.0018	V

TCB		
Name	Value	Unit
TCB TEMP 0	97.3159	deg C
TCB TEMP 1	97.3159	deg C
TCB TEMP 2	97.3159	deg C
ADCS1 IOE STATE	0	N/A
ADCS1 IOE MODE	0	N/A

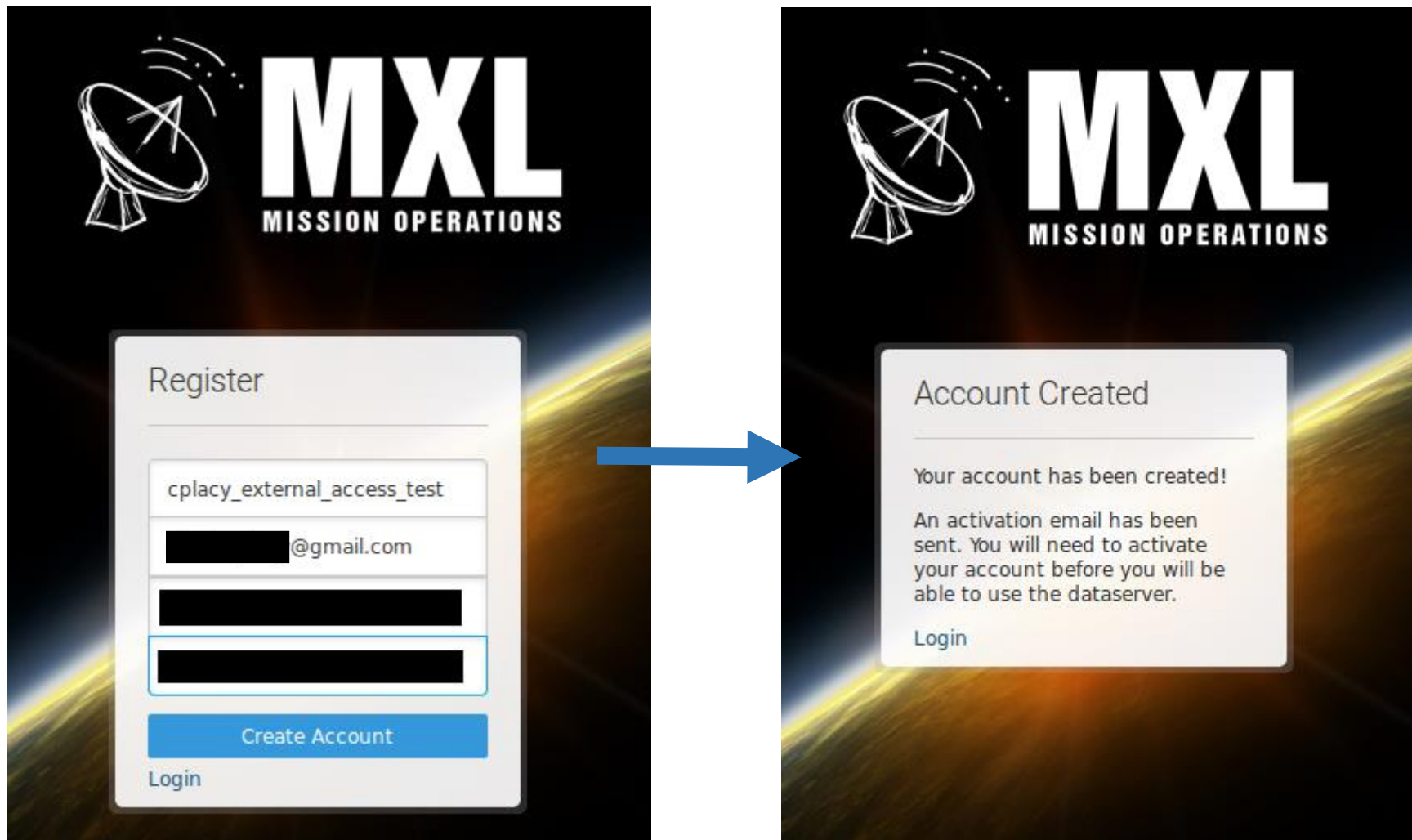
Pid: 0 | Sid: 65 | Sat Jan 24 17:15:28 EST 2015
Pid: 0 | Sid: 65 | Sat Jan 24 17:16:03 EST 2015
Pid: 0 | Sid: 65 | Sat Jan 24 17:16:27 EST 2015
Pid: 0 | Sid: 65 | Sat Jan 24 17:17:14 EST 2015
Pid: 0 | Sid: 65 | Sat Jan 24 17:17:49 EST 2015
Pid: 0 | Sid: 65 | Sat Jan 24 17:18:12 EST 2015
Pid: 0 | Sid: 65 | Sat Jan 24 17:18:36 EST 2015



1) Browse to <https://mxl-ops.engin.umich.edu>. You should see the login screen below:



2) Click "Create New Account". Select a username, email, and password and click "Create Account". We use accounts to associate beacons we receive with operators, and to control access to MXL operations tools and data.



3) You should receive a confirmation email at the address you entered. Click the link to activate your account

Activate Your MXL Dataserver Account

Inbox x



noreply@mxl-ops.engin.umich.edu

to me

1:21 PM (0 minutes ago)

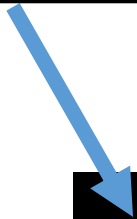


Your MXL dataserver account has been created! Thank you for your interest in helping MXL collect data for our missions. The support that contributors like you provide is crucial to monitoring the health of our satellites and collecting scientific data.

To activate your account, please click the following link within the next 7 days:

<http://mxl-ops.engin.umich.edu/>

Thanks again,
- MXL Mission Operations Team



- 4) Once you login, you should see a screen with the content shown below. If you'd like beacons/downlinks you receive to be associated with your name and/or organization [for bragging rights!], fill in any personal information you'd like to be displayed (This step is optional). Next, click the "Generate a New API Token" button to get your API token. This is required for our gs client to establish a secure connection to the dataserver, so that received radio packets sent there can be attributed to trusted sources. You will need to enter this token into the GS client when you first run it. Finally, click "Download Public Client" to download the launcher for our public client

The screenshot shows the MXL Mission Operations user interface. At the top left is the MXL logo with a satellite icon and the text "MISSION OPERATIONS". The main content area is titled "Welcome back cplacy_external_access_test!" and includes a "Logout" link dated "January 23, 2015".

On the left, the "Account Settings" section contains a "Change Your Password" link and a form with the following fields: Username (cplacy_external_access_test), Date joined (2015-01-23 12:21:45), Email address (redacted @gmail.com), First name, Last name, Organization, City, Region, and Country. A green box highlights the Username field with the annotation "1. (Optional)". Below the form is an "Update Profile" button.

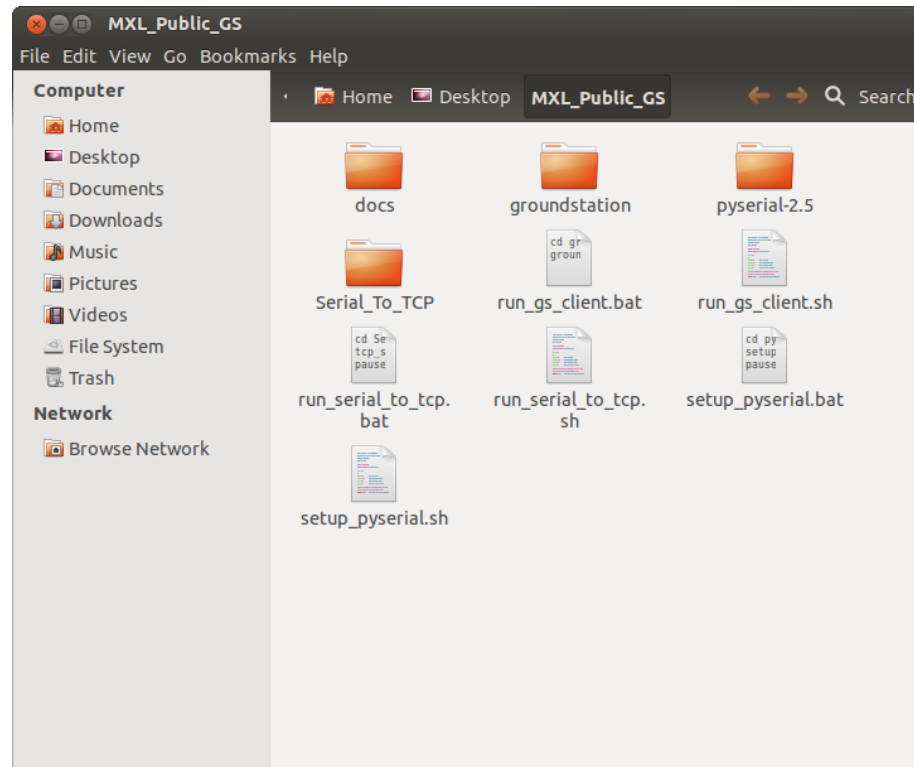
On the right, the "MXL Satellite Client" section contains the following text: "The public MXL satellite client allows you to receive and decode the beacons generated by our craft. To download our client, use the launcher below. Using the launcher will ensure that the client software is kept up to date." A green box highlights the "Download Public Client Launcher" button with the annotation "3.". Below this is a link to "MXL Dataserver Public Certificate" and a section for "API Access Token".

The "API Access Token" section contains the text: "Your API access token grants you access to the MXL dataserver API, which our client software uses to submit new radio packets. If you are collecting data for us (thanks!), your API key needs to be set in the client options to allow it to send data to our servers on your behalf." A dashed box highlights the text "2. You do not currently have an active API token." with a green box around the "Generate A New API Token" button. A blue arrow points from this button to a separate window at the bottom of the image.

Your API Token [redacted]

Re-generate Your API Token

5) Save and extract the client file to the folder of your choice. Documentation on how to use the client is included with the launcher in the “docs” folder.



Thank You for helping with MXL’s tracking and mission operations!

-The Ops Team