

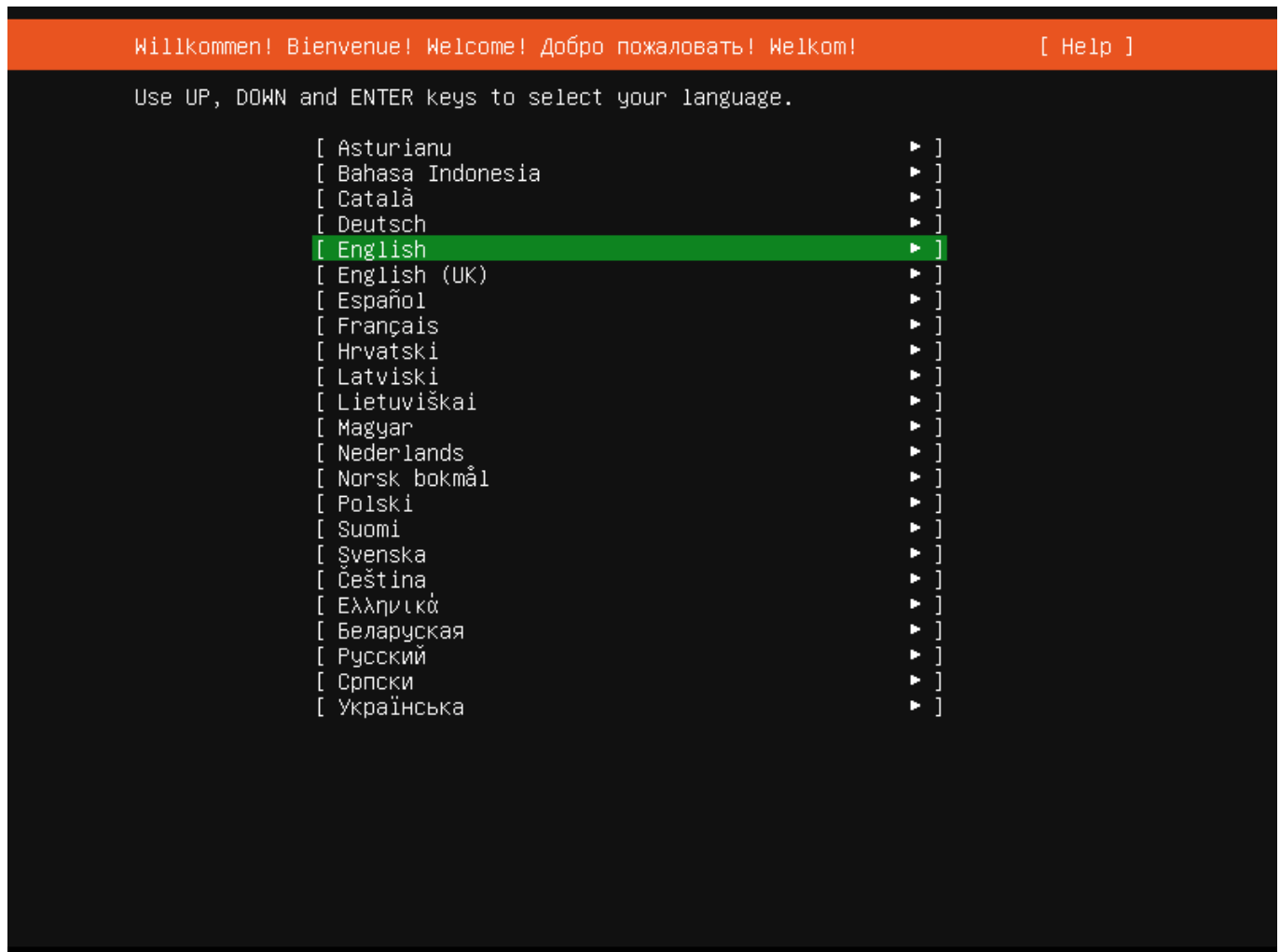
# CyBroWebScada install

## OS install

Install "Ubuntu Server 18.04 LTS"

[ubuntu-18.04.5-live-server-amd64.iso](#)

### Select language



### Update to the new installer

```
Installer update available [ Help ]

Version 21.08.2 of the installer is now available (20.07.1+git2.5de9df3e is
currently running).

You can read the release notes for each version at:

    https://github.com/CanonicalLtd/subiquity/releases

If you choose to update, the update will be downloaded and the installation
will continue from here.

[ Update to the new installer ]
[ Continue without updating   ]
[ Back                       ]
```

## Select keyboard

Keyboard configuration

[ Help ]

Please select your keyboard layout below, or select "Identify keyboard" to detect your layout automatically.

Layout: [ Slovenian ▼ ]

Variant: [ Slovenian ▼ ]

[ Identify keyboard ]

[ Done ]  
[ Back ]

## Configure network

Network connections

[ Help ]

Configure at least one interface this server can use to talk to other machines, and which preferably provides sufficient access for updates.

NAME	TYPE	NOTES
[ enp0s3	eth	- ▶ ]
DHCPv4	192.168.11.142/24	
08:00:27:2b:9c:7c / Intel Corporation / 82540EM Gigabit Ethernet Controller (PRO/1000 MT Desktop Adapter)		

[ Create bond ▶ ]

[ Done ]

[ Back ]

## Configure proxy

Configure proxy

[ Help ]

If this system requires a proxy to connect to the internet, enter its details here.

Proxy address:

If you need to use a HTTP proxy to access the outside world, enter the proxy information here. Otherwise, leave this blank.

The proxy information should be given in the standard form of "http://[[user] [:pass]@]host[:port]/".

[ Done ]

[ Back ]

## Configure Ubuntu archive mirror

Configure Ubuntu archive mirror

[ Help ]

If you use an alternative mirror for Ubuntu, enter its details here.

Mirror address:

You may provide an archive mirror that will be used instead of the default.

[ Done ]

[ Back ]

## Guided storage configuration

## Guided storage configuration

[\[ Help \]](#)

Configure a guided storage layout, or create a custom one:

☒ Use an entire disk

[ VBOX\_HARDDISK\_VB784cc3ce-28d49ba2      local disk 10.000G ▼ ]

☒ Set up this disk as an LVM group

☐ Encrypt the LVM group with LUKS

Passphrase:

Confirm passphrase:

☐ Custom storage layout

[\[ Done \]](#)  
[\[ Back \]](#)

## Storage configuration

[\[ Help \]](#)

## FILE SYSTEM SUMMARY

MOUNT POINT	SIZE	TYPE	DEVICE	TYPE
[ /	8.996G	new ext4	new LVM logical volume	► ]
[ /boot	1.000G	new ext4	new partition of local disk	► ]

## AVAILABLE DEVICES

No available devices

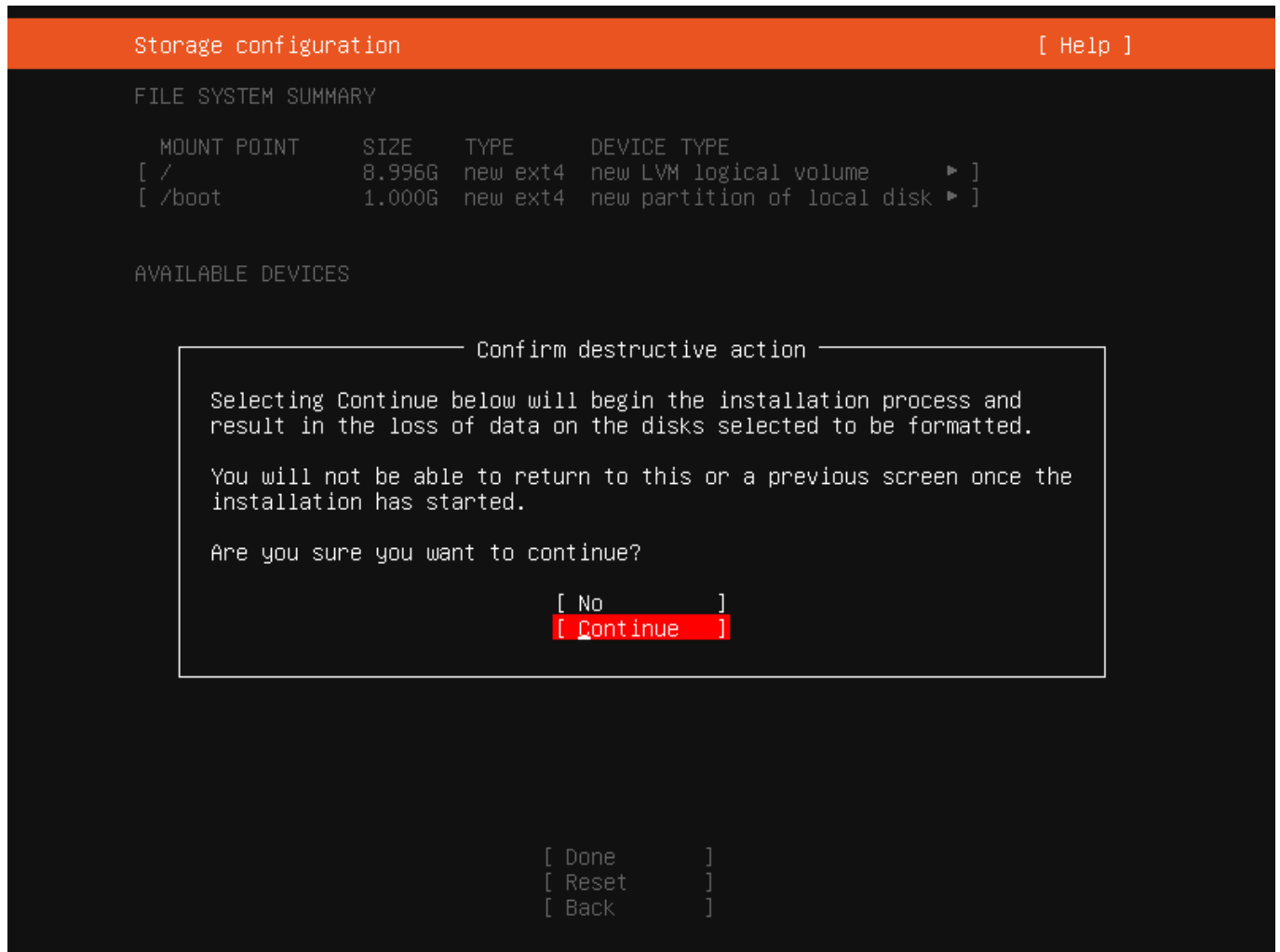
[ Create software RAID (md) ► ]  
[ Create volume group (LVM) ► ]

## USED DEVICES

DEVICE	TYPE	SIZE
[ ubuntu-vg (new)	LVM volume group	8.996G ► ]
ubuntu-lv	new, to be formatted as ext4, mounted at /	8.996G ►
[ VBOX_HARDDISK_VB784cc3ce-28d49ba2	local disk	10.000G ► ]
partition 1	new, BIOS grub spacer	1.000M ►
partition 2	new, to be formatted as ext4, mounted at /boot	1.000G ►
partition 3	new, PV of LVM volume group ubuntu-vg	8.997G ►

[ Done ]  
[ Reset ]  
[ Back ]





## Profile setup

Profile setup

[ Help ]

Enter the username and password you will use to log in to the system. You can configure SSH access on the next screen but a password is still needed for sudo.

Your name:

Your server's name:   
The name it uses when it talks to other computers.

Pick a username:

Choose a password:

Confirm your password:

[ Done ]

## SSH Setup

## SSH Setup

[ Help ]

You can choose to install the OpenSSH server package to enable secure remote access to your server.

```
[X]  Install OpenSSH server
```

```
Import SSH identity: [ No ▼ ]
You can import your SSH keys from GitHub or Launchpad.
```

[ Done ]  
[ Back ]

## Featured Server Snaps

Featured Server Snaps

[ Help ]

These are popular snaps in server environments. Select or deselect with SPACE, press ENTER to see more details of the package, publisher and versions available.

[ ]	microk8s	Kubernetes for workstations and appliances	▶
[ ]	nextcloud	Nextcloud Server - A safe home for all your data	▶
[ ]	wekan	The open-source kanban	▶
[ ]	kata-containers	Build lightweight VMs that seamlessly plug into the c	▶
[ ]	docker	Docker container runtime	▶
[ ]	canonical-livepatch	Canonical Livepatch Client	▶
[ ]	rocketchat-server	Rocket.Chat server	▶
[ ]	mosquitto	Eclipse Mosquitto MQTT broker	▶
[ ]	etcd	Resilient key-value store by CoreOS	▶
[ ]	powershell	PowerShell for every system!	▶
[ ]	stress-ng	tool to load and stress a computer	▶
[ ]	sabnzbd	SABnzbd	▶
[ ]	wormhole	get things from one computer to another, safely	▶
[ ]	aws-cli	Universal Command Line Interface for Amazon Web Servi	▶
[ ]	google-cloud-sdk	Google Cloud SDK	▶
[ ]	slcli	Python based SoftLayer API Tool.	▶
[ ]	doctl	The official DigitalOcean command line interface	▶
[ ]	conjure-up	Package runtime for conjure-up spells	▶
[ ]	postgresql10	PostgreSQL is a powerful, open source object-relation	▶
[ ]	heroku	CLI client for Heroku	▶
[ ]	keepalived	High availability VRRP/BFD and load-balancing for Lin	▶
[ ]	prometheus	The Prometheus monitoring system and time series data	▶
[ ]	juju	Juju - a model-driven operator lifecycle manager for	▶

[ Done ]

[ Back ]

**OS Install complete**

Install complete!

[ Help ]

```
curtin command apt-config
curtin command in-target
running 'curtin curthooks'
curtin command curthooks
  configuring apt
  configuring apt
  installing missing packages
  configuring iscsi service
  configuring raid (mdadm) service
  installing kernel
  setting up swap
  apply networking config
  writing etc/fstab
  configuring multipath
  updating packages on target system
  configuring pollinate user-agent on target
  updating initramfs configuration
  configuring target system bootloader
  installing grub to target devices
finalizing installation
  running 'curtin hook'
  curtin command hook
executing late commands
final system configuration
  configuring cloud-init
  installing openssh-server
  downloading and installing security updates
  restoring apt configuration
subiquity/Late/run
```

[ View full log ]

[ Reboot Now ]

```
[FAILED] Failed unmounting /lib/modules.  
[ OK ] Unmounted /target/cdrom.  
[ OK ] Stopped target Swap.  
[ OK ] Unmounted /target/boot.  
        Unmounting /target...  
[ OK ] Unmounted /target.  
[ OK ] Reached target Unmount All Filesystems.  
[ OK ] Stopped target Local File Systems (Pre).  
        Stopping Monitoring of LVM2 mirrors, snapshots etc. using dmeventd or progress polling...  
[ OK ] Stopped Create Static Device Nodes in /dev.  
[ OK ] Stopped Remount Root and Kernel File Systems.  
[ OK ] Reached target Shutdown.  
        Starting Shuts down the "live" preinstalled system cleanly...  
[ OK ] Stopped Monitoring of LVM2 mirrors, snapshots etc. using dmeventd or progress polling.  
        Stopping LVM2 metadata daemon...  
[ OK ] Stopped LVM2 metadata daemon.  
Please remove the installation medium, then press ENTER:  
_
```

## Connect with WinSCP / PuTTY

Login: solar Password: robo1990

```
Ubuntu 18.04.5 LTS cws tty1
```

```
cws login: solar
```

```
Password: _
```

Check server IP:

```
ifconfig
```

```
System load:  0.06                Processes:            91
Usage of /:   39.8% of 8.79GB      Users logged in:     1
Memory usage: 14%                 IP address for enp0s3: 192.168.11.142
Swap usage:   0%

64 packages can be updated.
1 update is a security update.

New release '20.04.3 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

solar@cws:~$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
    inet 192.168.11.142  netmask 255.255.255.0  broadcast 192.168.11.255
    inet6 fe80::a00:27ff:fe2b:9c7c  prefixlen 64  scopeid 0x20<link>
    ether 08:00:27:2b:9c:7c  txqueuelen 1000  (Ethernet)
    RX packets 475  bytes 66215 (66.2 KB)
    RX errors 0  dropped 171  overruns 0  frame 0
    TX packets 136  bytes 14677 (14.6 KB)
    TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

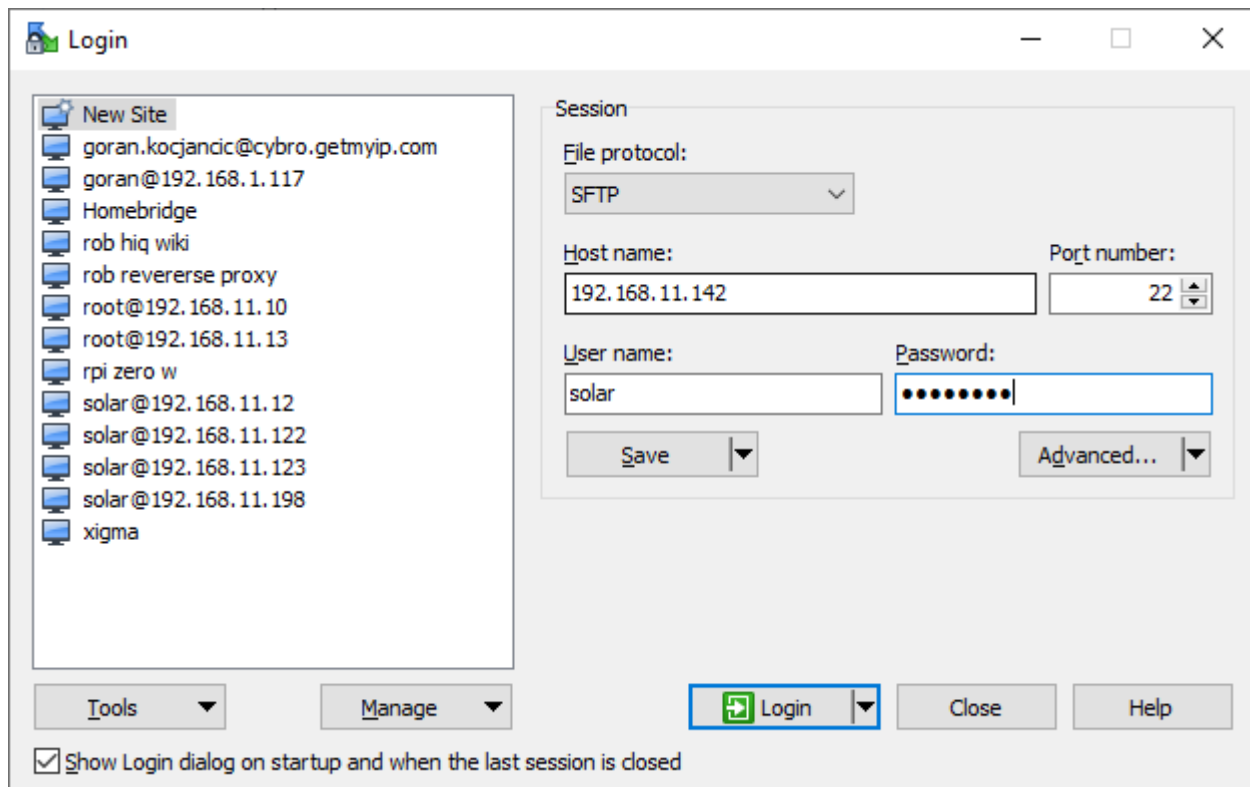
lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
    inet 127.0.0.1  netmask 255.0.0.0
    inet6 ::1  prefixlen 128  scopeid 0x10<host>
    loop txqueuelen 1000  (Local Loopback)
    RX packets 100  bytes 7920 (7.9 KB)
    RX errors 0  dropped 0  overruns 0  frame 0
    TX packets 100  bytes 7920 (7.9 KB)
    TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

solar@cws:~$
```

Open WinSCP, select “New Site” and enter

- Host name: 'server IP'
- User name: solar
- Password: robo1990





The Login dialog box is titled "Login" and features a list of saved sites on the left and session configuration on the right. The list includes "New Site" and several entries with usernames and IP addresses. The session configuration includes fields for File protocol (SFTP), Host name (192.168.11.142), Port number (22), User name (solar), and Password (masked with dots). There are buttons for "Save", "Advanced...", "Tools", "Manage", "Login", "Close", and "Help". A checkbox at the bottom is checked, labeled "Show Login dialog on startup and when the last session is closed".

**Login**

New Site  
goran.kocjancic@cybro.getmyip.com  
goran@192.168.1.117  
Homebridge  
rob hiq wiki  
rob reverse proxy  
root@192.168.11.10  
root@192.168.11.13  
rpi zero w  
solar@192.168.11.12  
solar@192.168.11.122  
solar@192.168.11.123  
solar@192.168.11.198  
xigma

**Session**

File protocol:  
SFTP

Host name: 192.168.11.142 Port number: 22

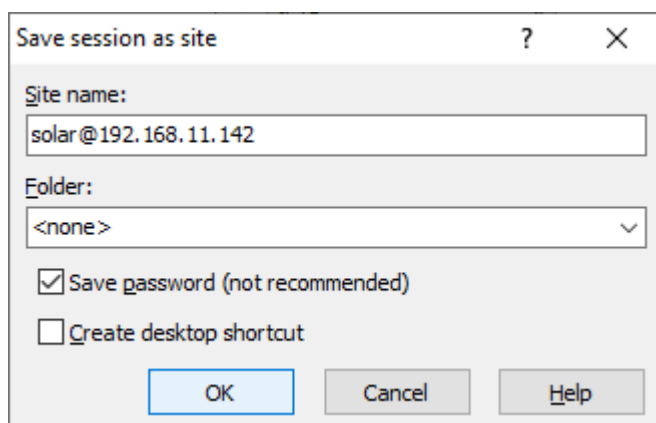
User name: solar Password: .....

Save Advanced...

Tools Manage Login Close Help

☒ Show Login dialog on startup and when the last session is closed

### Save session



The "Save session as site" dialog box is titled "Save session as site" and contains fields for Site name and Folder. The Site name field is filled with "solar@192.168.11.142". The Folder field is set to "<none>". There are two checkboxes: "Save password (not recommended)" which is checked, and "Create desktop shortcut" which is unchecked. At the bottom are buttons for "OK", "Cancel", and "Help".

**Save session as site**

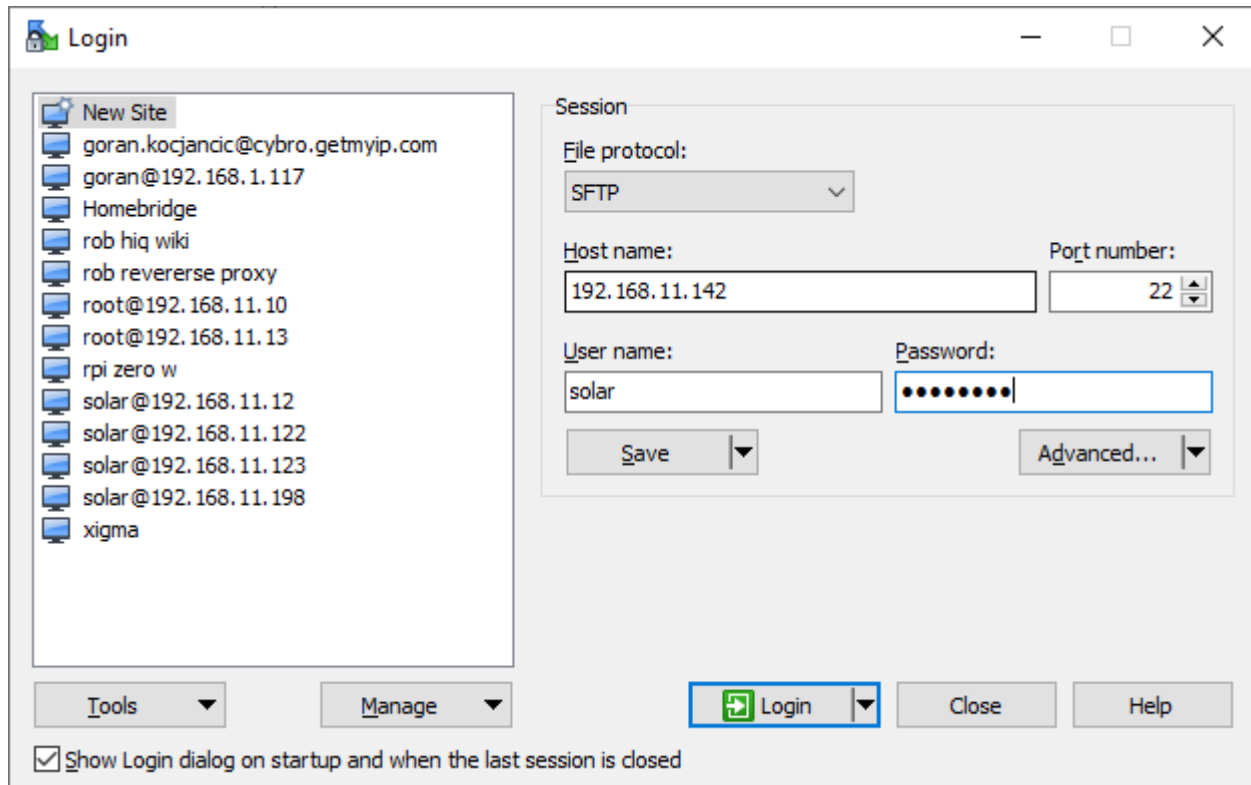
Site name:  
solar@192.168.11.142

Folder:  
<none>

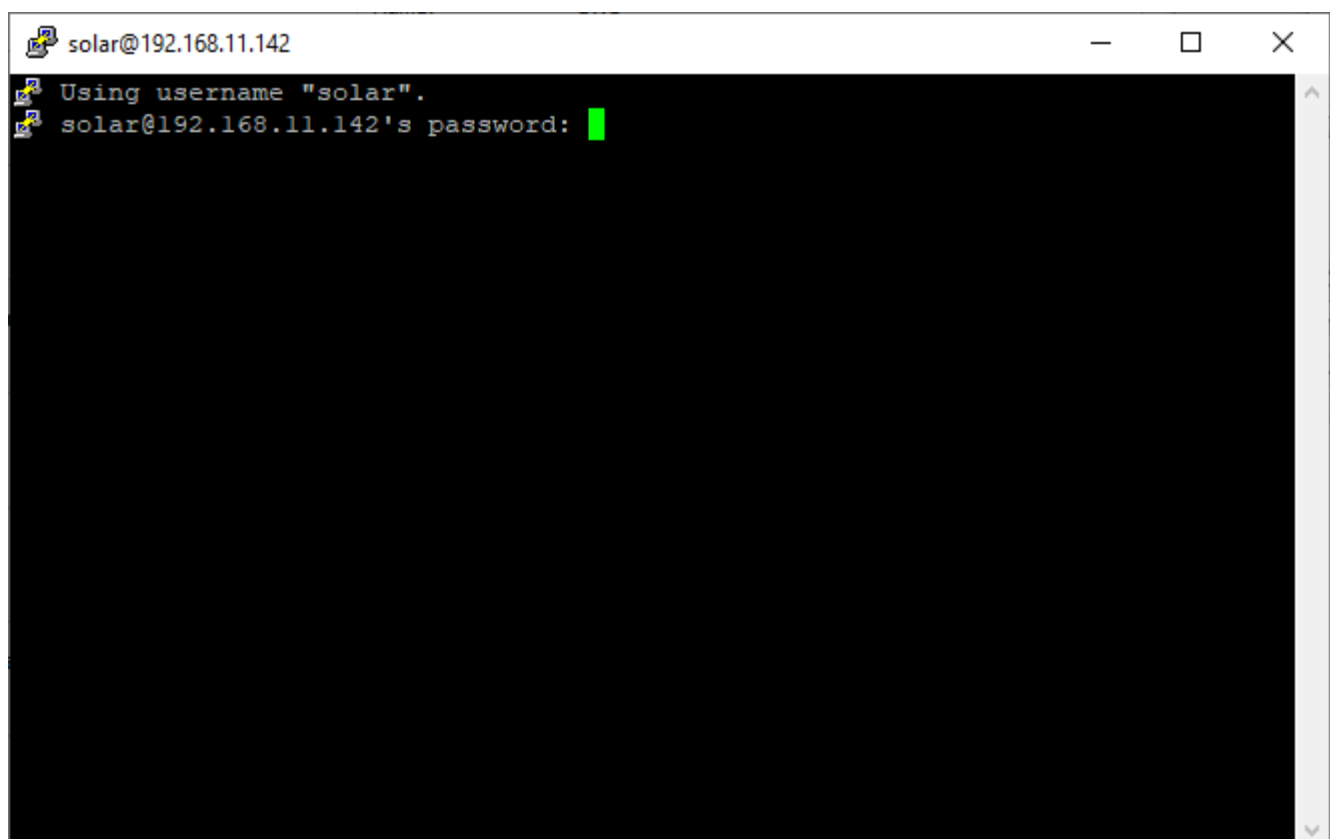
☒ Save password (not recommended)  
☐ Create desktop shortcut

OK Cancel Help

### Login to server



Open session in PuTTY (Ctrl+P)



Enter server password: robo1990

## OS update / upgrade

```
sudo apt-get update  
sudo apt-get upgrade
```

Copy above commands and paste them in PuTTY with right mouse click.

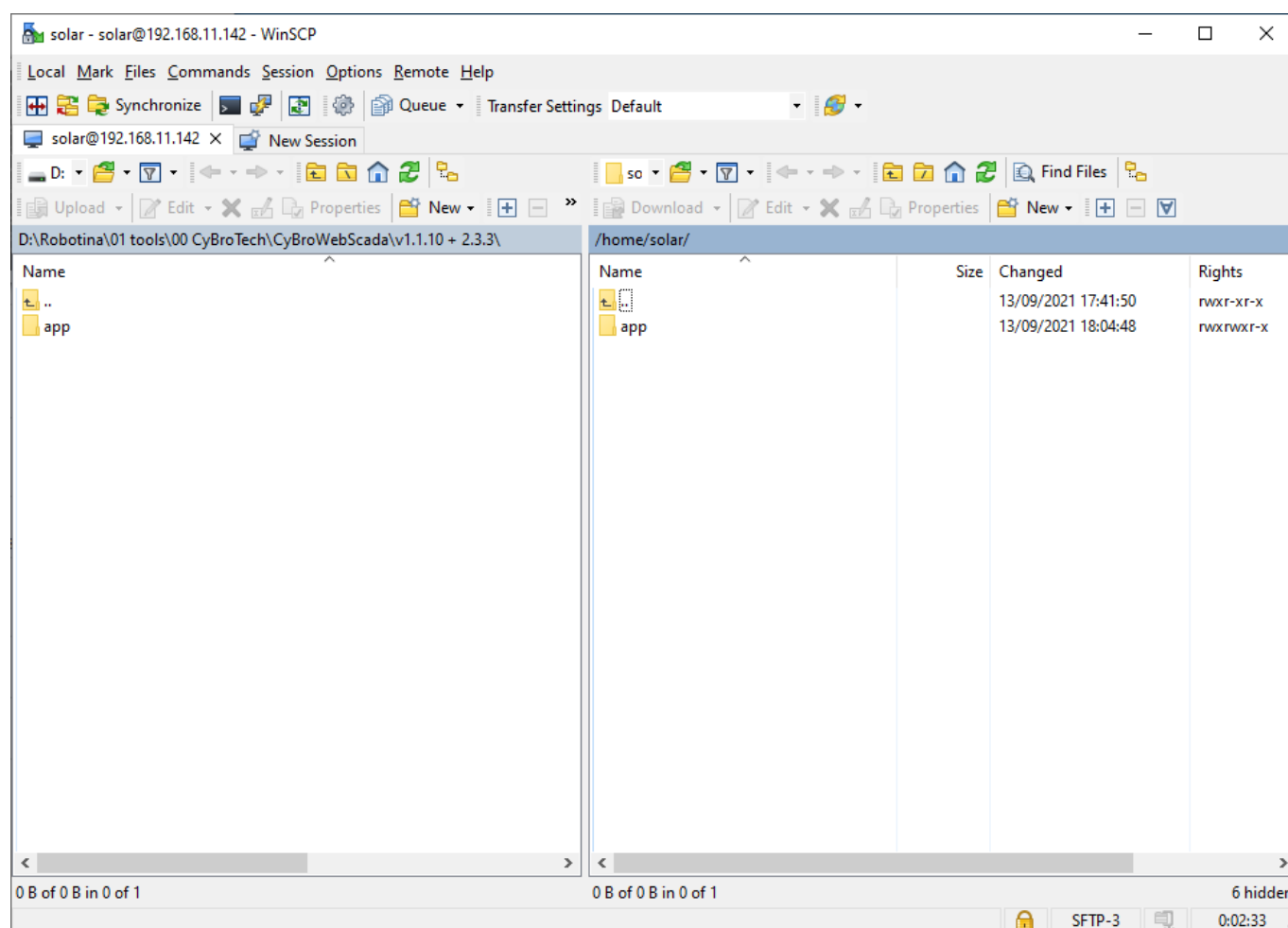
Reboot

```
sudo reboot
```

## Copy CybroWebScada files

With WinSCP copy CybroWebScada files from “v1.1.10 + 2.3.3” (“app” folder) to CyBroWebScada server into “/home/solar/” folder.

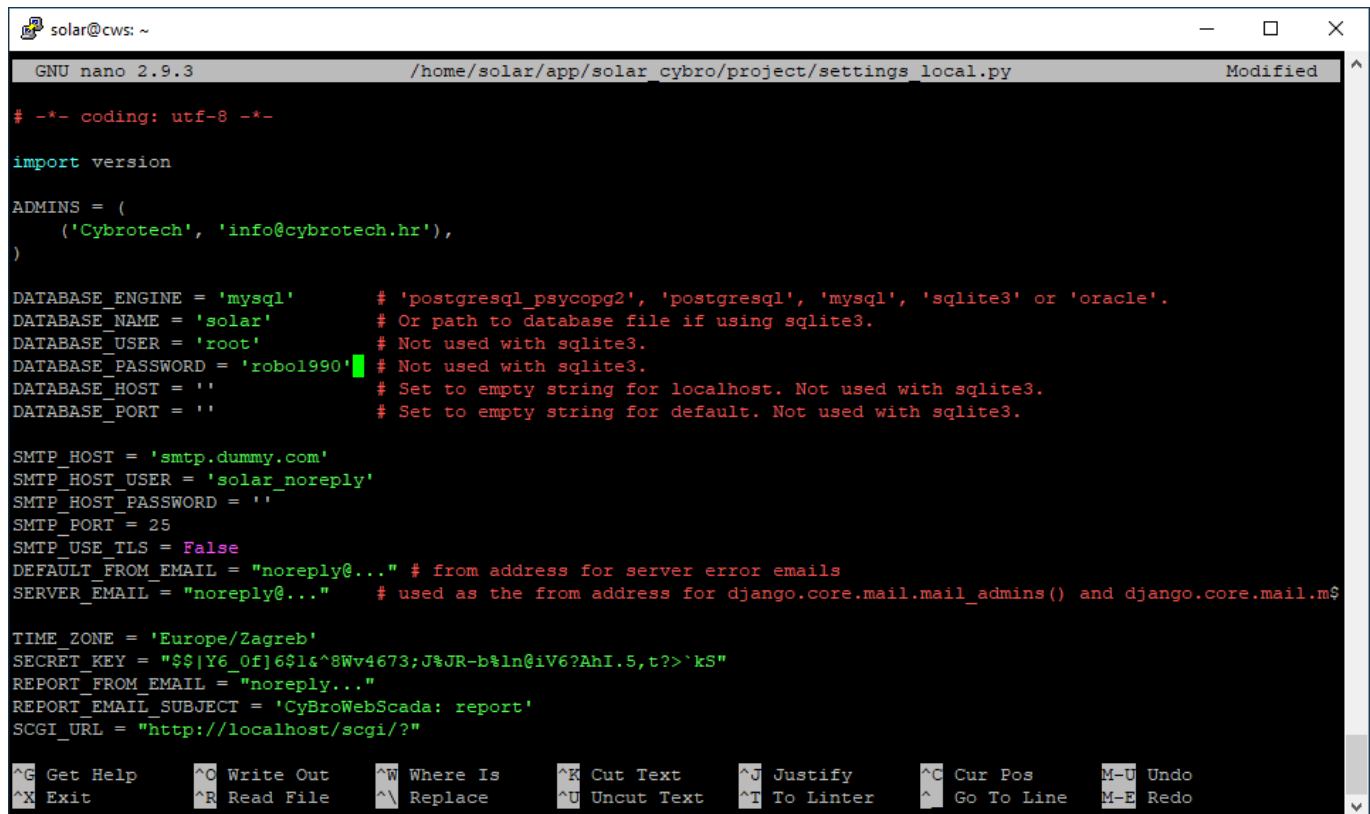
[CybroWebScada files](#)



## Change/update database password

In “settings\_local.py” change DATABASE\_PASSWORD to 'robo1990'

```
sudo nano /home/solar/app/solar_cybro/project/settings_local.py
```



```
solar@cws: ~
GNU nano 2.9.3 /home/solar/app/solar_cybro/project/settings_local.py Modified
# -*- coding: utf-8 -*-

import version

ADMINS = (
    ('Cybrotech', 'info@cybrotech.hr'),
)

DATABASE_ENGINE = 'mysql'          # 'postgresql_psycopg2', 'postgresql', 'mysql', 'sqlite3' or 'oracle'.
DATABASE_NAME = 'solar'            # Or path to database file if using sqlite3.
DATABASE_USER = 'root'             # Not used with sqlite3.
DATABASE_PASSWORD = 'robo1990'    # Not used with sqlite3.
DATABASE_HOST = ''                 # Set to empty string for localhost. Not used with sqlite3.
DATABASE_PORT = ''                 # Set to empty string for default. Not used with sqlite3.

SMTP_HOST = 'smtp.dummy.com'
SMTP_HOST_USER = 'solar_noreply'
SMTP_HOST_PASSWORD = ''
SMTP_PORT = 25
SMTP_USE_TLS = False
DEFAULT_FROM_EMAIL = "noreply@..." # from address for server error emails
SERVER_EMAIL = "noreply@..." # used as the from address for django.core.mail.mail_admins() and django.core.mail.m$

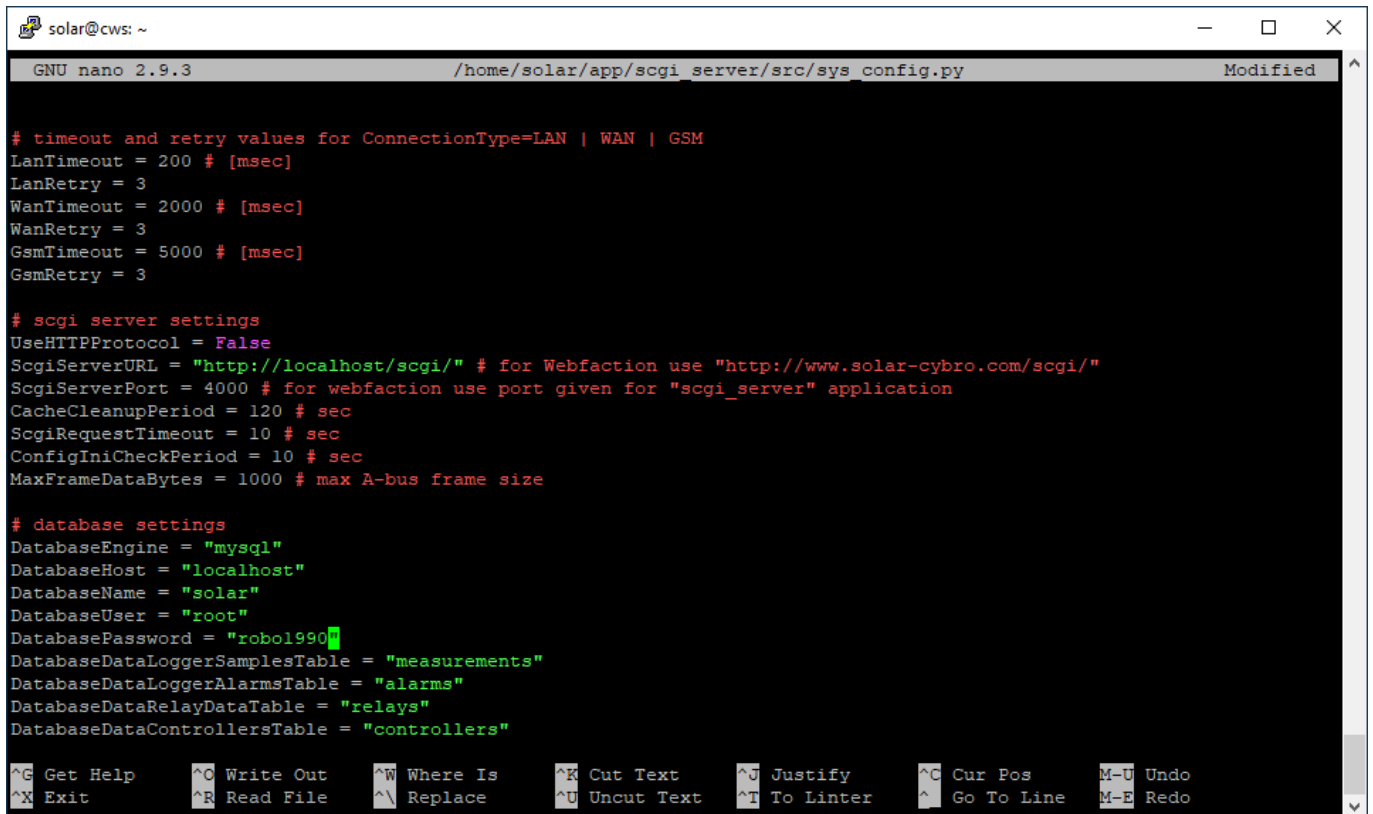
TIME_ZONE = 'Europe/Zagreb'
SECRET_KEY = "$$|Y6_0f]6$1&^8Wv4673;J%JR-b%ln@iV6?AhI.5,t?>`kS"
REPORT_FROM_EMAIL = "noreply..."
REPORT_EMAIL_SUBJECT = 'CyBroWebScada: report'
SCGI_URL = "http://localhost/scgi/"

^G Get Help      ^O Write Out     ^W Where Is     ^K Cut Text     ^J Justify      ^C Cur Pos      M-U Undo
^X Exit          ^R Read File     ^\ Replace      ^U Uncut Text   ^T To Linter    ^_ Go To Line    M-E Redo
```

Exit and save: (Ctrl+x), Y, (Enter)

In “sys\_config.py” change DatabasePassword to “robo1990”

```
sudo nano /home/solar/app/scgi_server/src/sys_config.py
```



The screenshot shows a terminal window with the title bar "solar@cws: ~". The terminal displays the GNU nano 2.9.3 text editor editing the file `/home/solar/app/scgi_server/src/sys_config.py`. The file content is as follows:

```
# timeout and retry values for ConnectionType=LAN | WAN | GSM
LanTimeout = 200 # [msec]
LanRetry = 3
WanTimeout = 2000 # [msec]
WanRetry = 3
GsmTimeout = 5000 # [msec]
GsmRetry = 3

# scgi server settings
UseHTTPProtocol = False
ScgiServerURL = "http://localhost/scgi/" # for Webfaction use "http://www.solar-cybro.com/scgi/"
ScgiServerPort = 4000 # for webfaction use port given for "scgi_server" application
CacheCleanupPeriod = 120 # sec
ScgiRequestTimeout = 10 # sec
ConfigIniCheckPeriod = 10 # sec
MaxFrameDataBytes = 1000 # max A-bus frame size

# database settings
DatabaseEngine = "mysql"
DatabaseHost = "localhost"
DatabaseName = "solar"
DatabaseUser = "root"
DatabasePassword = "robo1990"
DatabaseDataLoggerSamplesTable = "measurements"
DatabaseDataLoggerAlarmsTable = "alarms"
DatabaseDataRelayDataTable = "relays"
DatabaseDataControllersTable = "controllers"
```

The bottom of the terminal window shows the nano editor's command shortcuts:

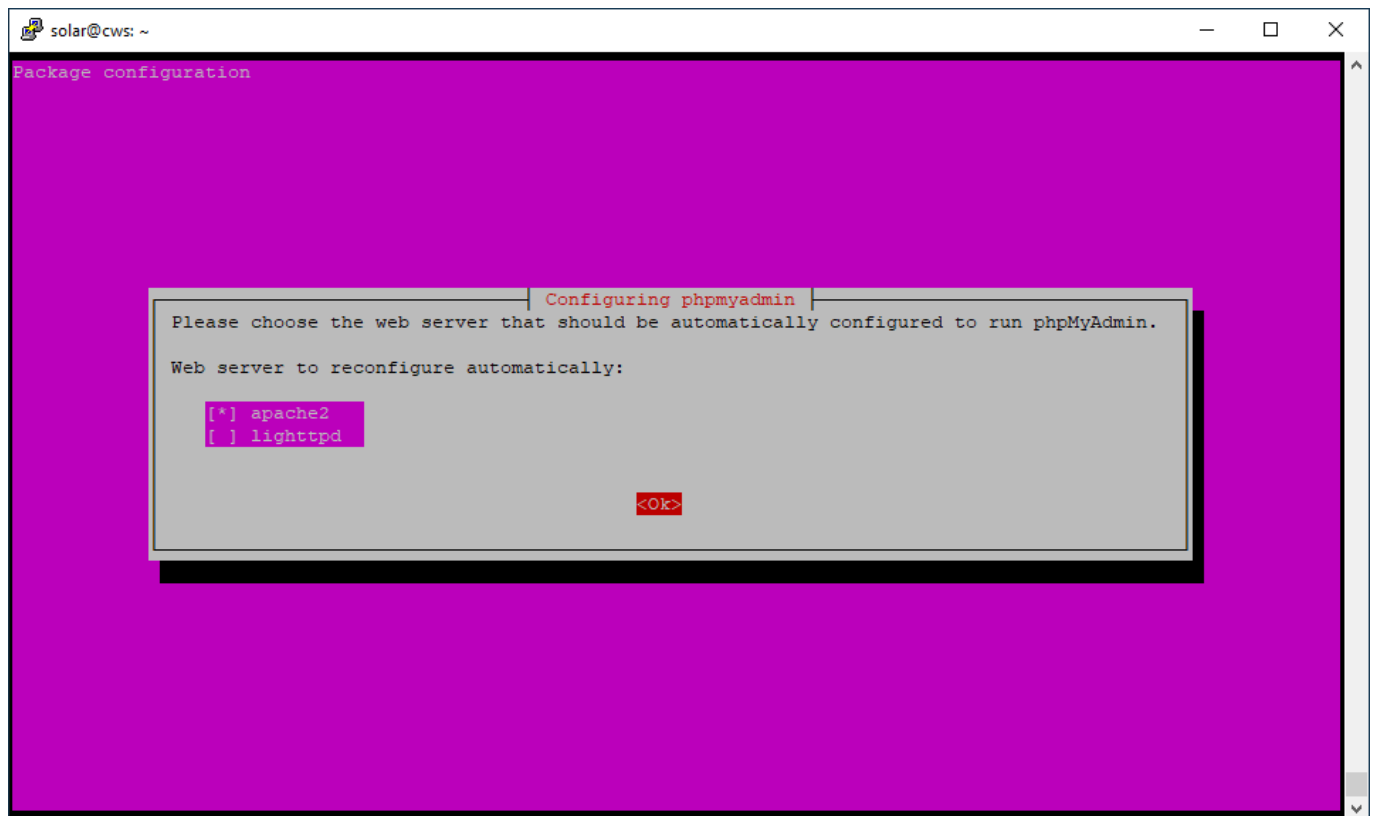
<b>^G</b> Get Help	<b>^O</b> Write Out	<b>^W</b> Where Is	<b>^K</b> Cut Text	<b>^J</b> Justify	<b>^C</b> Cur Pos	<b>M-U</b> Undo
<b>^X</b> Exit	<b>^R</b> Read File	<b>^_</b> Replace	<b>^U</b> Uncut Text	<b>^T</b> To Linter	<b>^_</b> Go To Line	<b>M-E</b> Redo

Exit and save: (Ctrl+x), Y, (Enter)

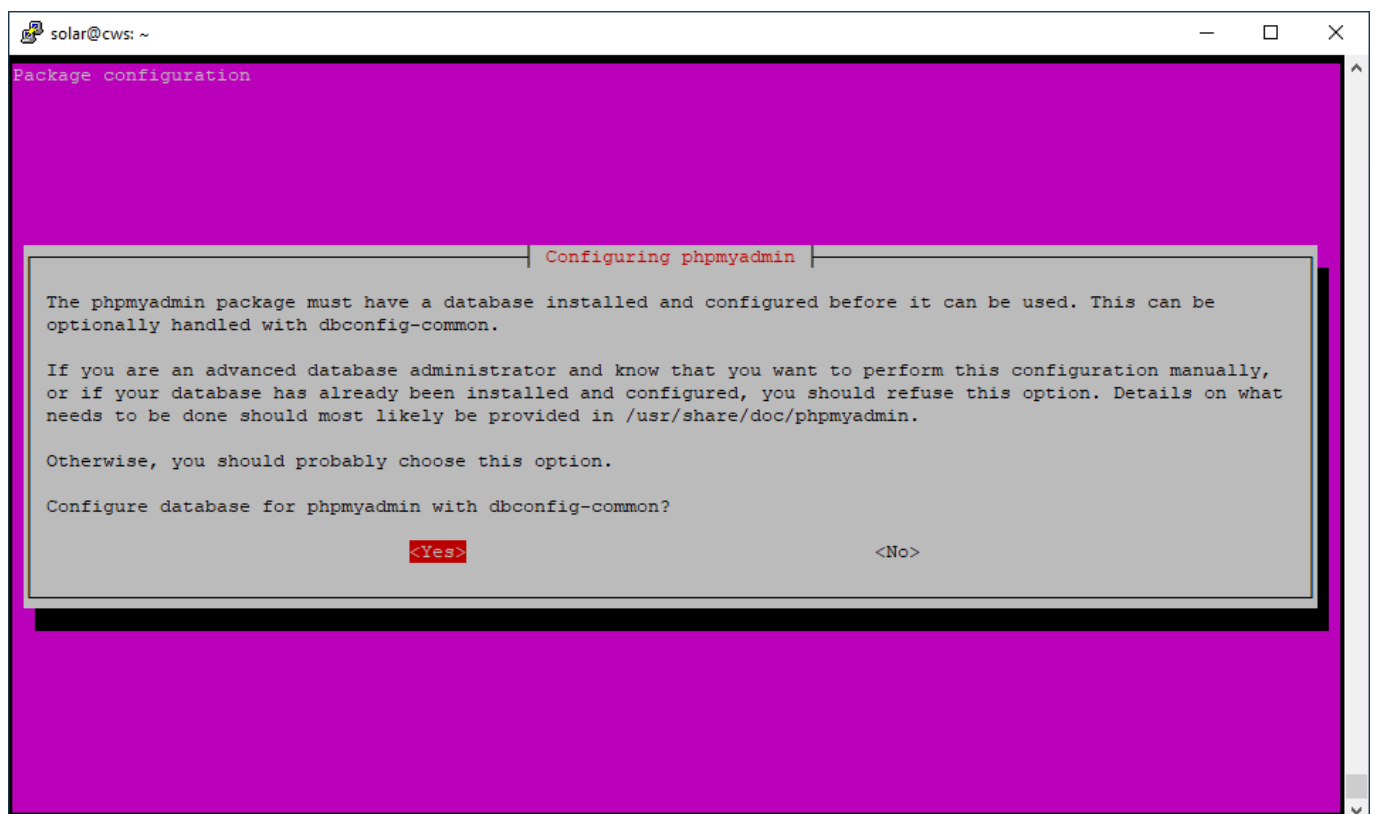
## Software install

```
sudo apt-get install apache2 mysql-server php5.6 phpmyadmin libapache2-mod-wsgi acl
```

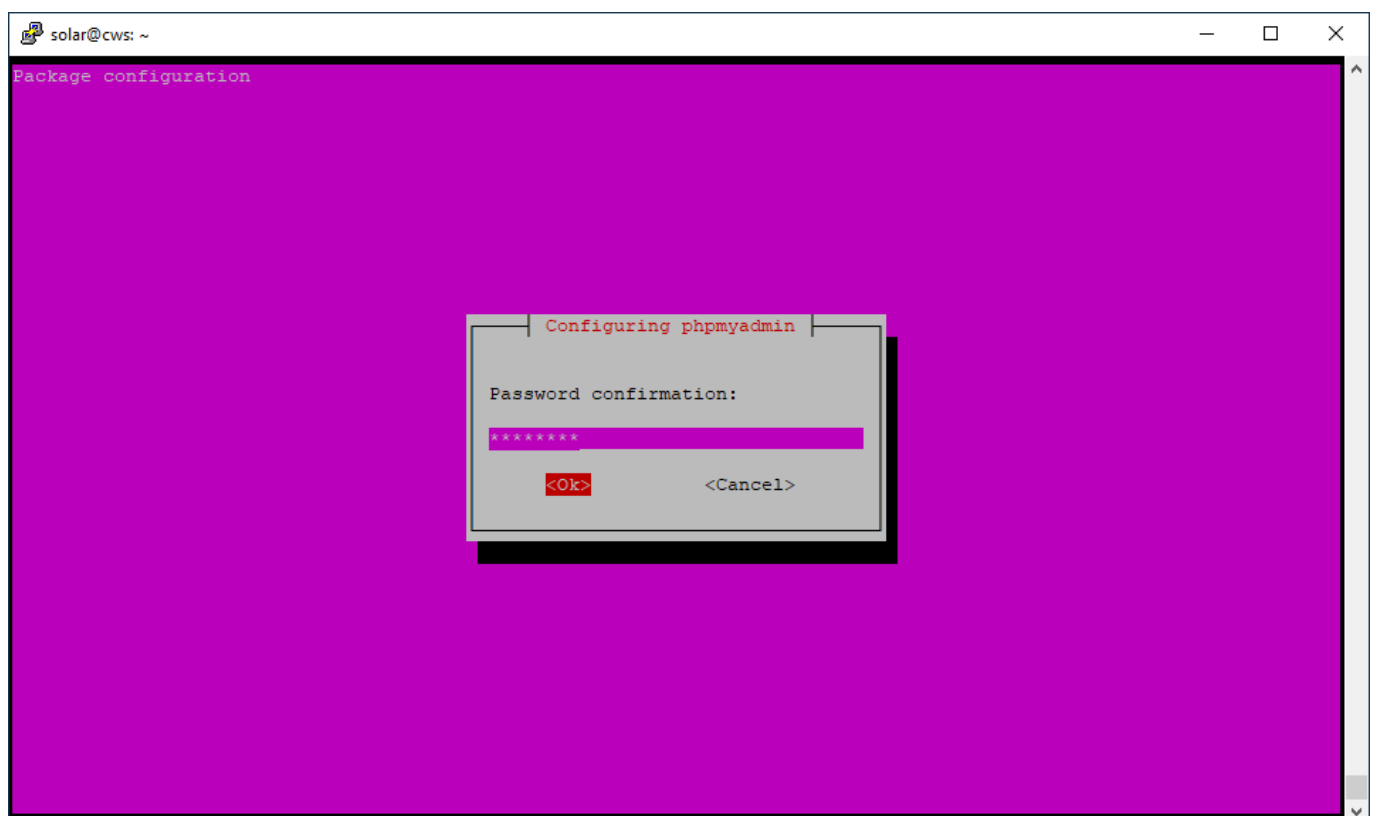
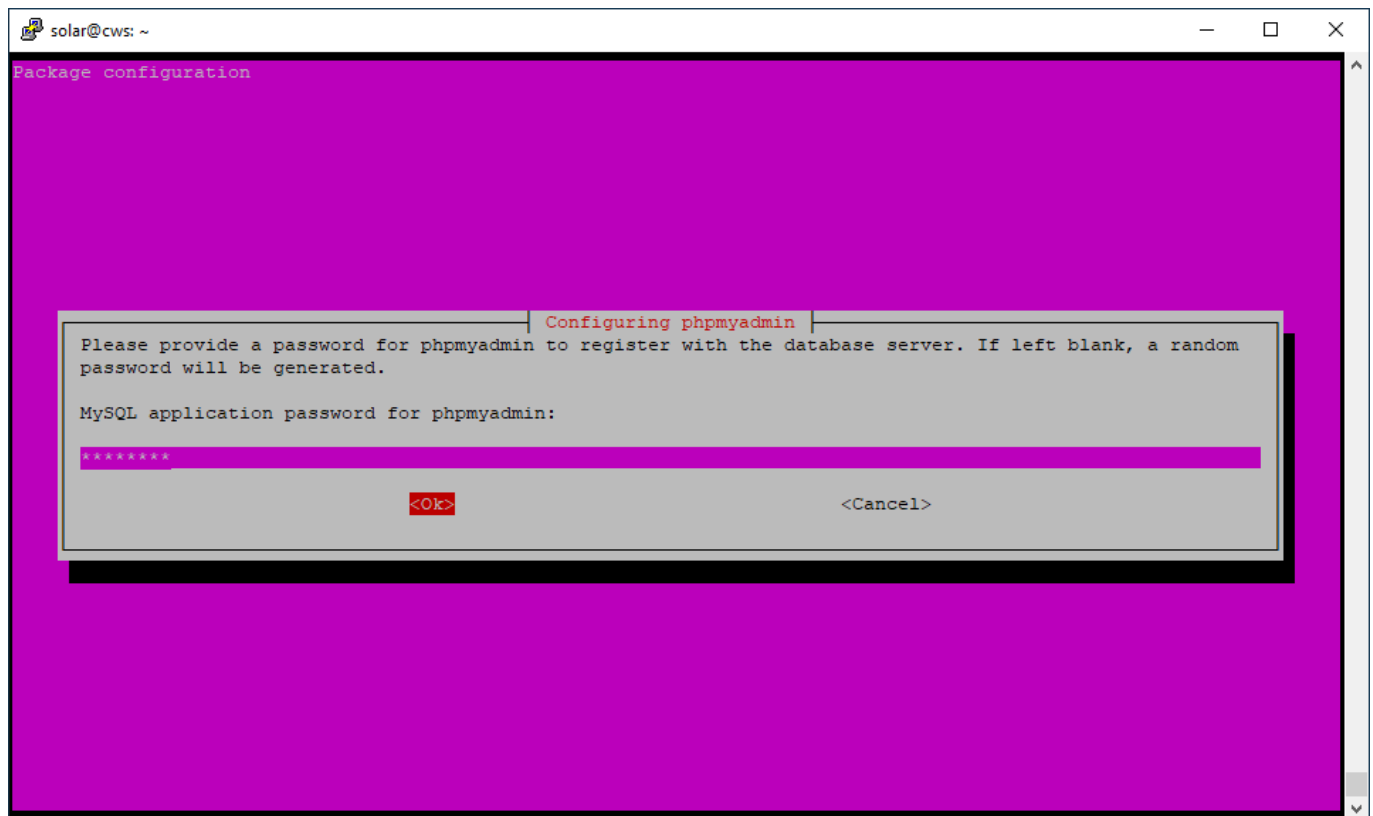
Web server to reconfigure automatically: apache2



Configure database with phpmyadmin with dbconfig-common? Yes



MySQL application password for phpmyadmin: "robo1990"



```
sudo apt-get install python-pip python-mysqldb
sudo -H pip install django==1.3
sudo -H pip install pytz
sudo -H apt-get install libjpeg-dev zlib1g-dev
sudo -H pip install pillow
```

## MySQL Database configuration

Enable mysql root login with password

```
sudo mysql

ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password BY
'robo1990';
FLUSH PRIVILEGES;
exit
```

## Fix Phpmyadmin version incompatibility

Back up phpMyAdmin

```
sudo mv /usr/share/phpmyadmin/ /usr/share/phpmyadmin.bak
sudo mkdir /usr/share/phpmyadmin/
cd /usr/share/phpmyadmin/
```

Download and Extract phpMyAdmin

```
sudo wget
https://files.phpmyadmin.net/phpMyAdmin/4.9.7/phpMyAdmin-4.9.7-all-languages
.tar.gz
sudo tar xzf phpMyAdmin-4.9.7-all-languages.tar.gz
sudo mv phpMyAdmin-4.9.7-all-languages/* /usr/share/phpmyadmin
```

### Edit vendor\_config.php

```
sudo nano /usr/share/phpmyadmin/libraries/vendor_config.php
```

Press CTRL + W and search for TEMP\_DIR

Change to:

```
define('TEMP_DIR', '/var/lib/phpmyadmin/tmp/');
```

### blowfish\_secret

```
sudo nano /usr/share/phpmyadmin/libraries/vendor_config.php
```

Press CTRL + W and search for CONFIG\_DIR

Change line to

```
define('CONFIG_DIR', '/etc/phpmyadmin/');
```



## Cleanup

```
sudo rm /usr/share/phpmyadmin/phpMyAdmin-5.1.1-all-languages.tar.gz
sudo rm -rf /usr/share/phpmyadmin/phpMyAdmin-5.1.1-all-languages
sudo rm -rf /usr/share/phpmyadmin.bak
```

## Apache set up

### Set virtual host:

```
sudo nano /etc/apache2/sites-enabled/000-default.conf
```

copy below text instead of 1st virtual host:

```
<VirtualHost *:80>
    #ServerName solarserver:80
    # solar cybro web application static files directory
    Alias /static/ /home/solar/app/solar_cybro/static/
    <directory "/home/solar/app/solar_cybro/static/">
        Order deny,allow
        Require all granted
    </directory>
    # solar cybro web application data directory
    Alias /data/ /home/solar/app/solar_cybro/data/
    <directory "/home/solar/app/solar_cybro/data/">
        Order deny,allow
        Require all granted
    </directory>
    # location of solar cybro wsgi startup file
    WSGIScriptAlias / /home/solar/app/solar_cybro/solar_cybro.wsgi
    <directory "/home/solar/app/solar_cybro/">
        Order deny,allow
        Require all granted
    </directory>
</VirtualHost>
```

### Restart Apache

```
sudo service apache2 restart
```

## phpMyAdmin setup

Browse to <http://IP/phpmyadmin/> to start phpMyAdmin.

Log in: u:root / p:robo1990

Create database by running the following SQL command:

```
CREATE DATABASE `solar` DEFAULT CHARACTER SET utf8 COLLATE utf8_bin;  
CREATE USER 'solar'@'localhost' IDENTIFIED BY 'robo1990';  
GRANT ALL PRIVILEGES ON * . * TO 'solar'@'localhost' IDENTIFIED BY  
'robo1990' WITH GRANT OPTION MAX_QUERIES_PER_HOUR 0 MAX_CONNECTIONS_PER_HOUR  
0 MAX_UPDATES_PER_HOUR 0 MAX_USER_CONNECTIONS 0;  
GRANT ALL PRIVILEGES ON `solar` . * TO 'solar'@'localhost';
```

Open table “solar” and import file “solar1.sql.gz”

Open table “mysql” and import file “time\_zone.sql.gz”

## Granting Apache access to data directory

```
cd /home/solar  
sudo setfacl -m u:www-data:--x $HOME  
sudo setfacl -R -m u:www-data:--- $HOME/app/*  
sudo setfacl -R -m u:www-data:rwX $HOME/app  
sudo setfacl -R -m d:u:www-data:rwX $HOME/app  
sudo chmod g+s $HOME/app  
sudo setfacl -R -m d:u:solar:rwX $HOME/app
```

## Set executable permissions

```
sudo chmod 755 /home/solar/app/scgi_server/src/cybro_com_server.py  
sudo chmod 755 /home/solar/app/scgi_server/src/cybro_scgi_server.py  
sudo chmod 755 /home/solar/app/scgi_server/src/run_scgi_server.py
```

## Edit crontab

```
crontab -e
```

Add following line to automatically start scgi server and reporting engine:

```
*/1 * * * * /home/solar/app/scgi_server/src/run_scgi_server.py &>/dev/null
```

## Restart Apache

```
sudo service apache2 restart
```

## CyBroWebScada setup

Browse to <http://IP> to start CyBroWebScada

Log in: u:admin / p:admin

**Change admin password to robo1990**

From:

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<http://wiki.hiq-lab.com/doku.php?id=specifications:cybrowescada:main>

Last update: **2022/05/06 07:10**