


ZenseHome with Websupport (for Webhooks)

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To use the ZenseHome installation from outside, we need some "service manager" at the home LAN to send API commands to the ZenseHome box.

 This is a POC - Proof Of Concept - It has various security problems and stupid static scripts - that could be improved and parameterized (so much...)

 A Pre-requisite is reading / installing from [ZenseHome API interfacing](#)

Installing the basics

As I have an Ubuntu server (with [PLEX](#)) in the house already (located at IP 10.0.0.150), I add the webserver apache2 to the installation. :

```
sudo apt-get install apache2
sudo a2enmod cgi
sudo service apache2 restart
```

then changing the default Apache2 config file:

/etc/apache2/sites-available/000-default.conf

```
<VirtualHost *:80>
    # The ServerName directive sets the request scheme, hostname and port that
    # the server uses to identify itself. This is used when creating
    # redirection URLs. In the context of virtual hosts, the ServerName
    # specifies what hostname must appear in the request's Host: header to
    # match this virtual host. For the default virtual host (this file) this
    # value is not decisive as it is used as a last resort host regardless.
    # However, you must set it for any further virtual host explicitly.
    #ServerName www.example.com

    ServerAdmin webmaster@localhost
    DocumentRoot /var/www/html

    ScriptAlias /cgi-bin/ /var/www/cgi-bin/
    <Directory "/var/www/cgi-bin/">
        Options +ExecCGI
        AddHandler cgi-script .cgi .pl .sh .exp
    </Directory>

    # Available loglevels: trace8, ..., trace1, debug, info, notice, warn,
    # error, crit, alert, emerg.
    # It is also possible to configure the loglevel for particular
    # modules, e.g.
    #LogLevel info ssl:warn

    ErrorLog ${APACHE_LOG_DIR}/error.log
    CustomLog ${APACHE_LOG_DIR}/access.log combined

    # For most configuration files from conf-available/, which are
    # enabled or disabled at a global level, it is possible to
    # include a line for only one particular virtual host. For example the
    # following line enables the CGI configuration for this host only
    # after it has been globally disabled with "a2disconf".
    #Include conf-available/serve-cgi-bin.conf
</VirtualHost>
```

Adding Zensehome /expect scripts

In the /var/www/cgi-bin/ I place 2 files:

turnon-office.exp

```
#!/usr/bin/expect
spawn telnet 10.0.0.110 10001
expect "'^J'."
send ">>Login 32010<<\r"
expect ">>Login Ok<<"
sleep .1;
send ">>Set 10604 1<<"
sleep .1;
send ">>Logout<<\r"
expect ">>Logout Ok<<"
exit
```

turnoff-office.exp

```
#!/usr/bin/expect
spawn telnet 10.0.0.110 10001
expect "'^J'."
send ">>Login 32010<<\r"
expect ">>Login Ok<<"
sleep .1;
send ">>Set 10604 0<<"
sleep .1;
send ">>Logout<<\r"
expect ">>Logout Ok<<"
exit
```

And now its possible to turn on the Office light at the URL: <http://10.0.0.150/cgi-bin/turnon-office.exp>

And off at <http://10.0.0.150/cgi-bin/turnoff-office.exp>



As there is not output, the Apache will return a 500 Error. Theres room for improvement - https://docstore.mik.ua/oreilly/linux/cgi/ch03_03.htm

Access from outside

The next step is to make a port forward in my Icotera Router:

Port Forwarding								
No.	Name	Protocols	Ext. ports		Int. IP	Int. port	Loopback	Enabled
1	portForward1	TCP ▾	80	80	10.0.0.150	80	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	portForward2	TCP ▴	32400	32400	10.0.0.150	32400	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	portForward3	UDP ▾	3099	3099	10.0.0.104	3099	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	portForward4	UDP ▾	3097	3097	10.0.0.104	3097	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	portForward5	UDP ▾	3074	3074	10.0.0.104	3074	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6	portForward6	UDP ▾	4380	4380	10.0.0.104	4380	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	portForward7	UDP ▾	27036	27036	10.0.0.104	27036	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	portForward8	UDP ▾	27000	27031	10.0.0.104	27000	<input type="checkbox"/>	<input checked="" type="checkbox"/>

And now its accessible from the world!!



Here, we should consider to make some (at least) IP restrictions in the Apache. Currently, the whole world can potentially turn the office light on/off

```
<Location />
  Order deny,allow
  Deny from all
  Allow from 77.243.62.62
</Location>
```