System Requirements

OS
Ubuntu Server LTS 64bit (recommended) [1]

Approximately for 5000 subscribers

Middlware Server with Stalker Middleware portal	
CPU	2×Xeon5620
RAM	16Gb
HDD	2×500Gb RAID-1 (soft or hard)

Content Storage	
CPU	2×Xeon5620
RAM	16Gb
HDD	*System* - 2×500Gb RAID-1, *Content* - 10×2Tb Hdw-RAID-5 (~200 simultaneous views)

Choosing of the distribution

The application works in any *nix system, but we **strongly recommend** to use stable **64 bit** distribution of **Ubuntu Server LTS**. The work with other distributions is not guaranteed.

Attention! Ubuntu Server 16.04 LTS is not supported at the moment, because there are not some necessary packets for installation from the package.

Installing the "Stalker" portal

Necessary services & packets

1. apache2
2. apache2-rewrite
3. nginx
4. nginx-extras
5. memcached
6. mysqld >= 5
7. php5 >= 5.3.0
8. php5-mysql

9. `php-pear`
10. `php-soap` *
11. `php5-intl` *
12. `php-gettext` *
13. `php5-memcache` *
14. `phing` (for version >= 4.8.0) **
15. `node.js` (`nodejs` package) >= v0.4.8 (for PVR management)
16. `upstart` (for stalkerd - PVR mangemant)
17. `php5-curl` *
18. `php5-tidy` *
19. `php5-imagick` *
20. `php5-geoip` *

* - beginning from the version 4.8.35 they are automatically installed with **phing** using

** - **phing** installation:

```
pear channel-discover pear.phing.info
pear install phing/phing
```

Example: Install all necessary services & packages for Ubuntu 14.04.3 LTS (performed by superuser "root"):

```
sudo apt-get update && sudo apt-get -y upgrade && sudo apt-get install -y -u
apache2 nginx nginx-extras memcached mysql-server php5 php5-mysql php-pear
nodejs upstart && sudo pear channel-discover pear.phing.info && sudo pear
install -Z phing/phing
```

Installation order

- **1.** Install the necessary services, packages;

- **2.**Download and unzip current release of "Stalker MW" in your web-server directory (For example in **/var/www/**). Project files should be available by the URL **http://<your_ip_or_domain_name>/stalker_portal/**; * <fs medium>**3.**Create MySQL user with permission to access **stalker_db** database only:

```
GRANT ALL PRIVILEGES ON stalker_db.* TO stalker@localhost IDENTIFIED BY '1'
WITH GRANT OPTION;
```

- **4.** Configuration file **/var/www/stalker_portal/server/config.ini**.

> **Do not edit** file **config.ini**! If you want to change some settings - create file **custom.ini** and add the necessary configuration.
> **Do not copy** the entire content of **config.ini** in **custom.ini**. Add customized sections to **custom.ini only**.

- **5.** Go to **/var/www/stalker_portal/deploy/** and run phing

```
sudo phing
```

- **6.** Configure MySQL, PHP, Node.js, Apache, Nginx;

Configure MySQL, PHP, Node.js, Apache, Nginx

MySQL

```
echo "max_allowed_packet = 32M" >> /etc/mysql/my.cnf
```

PHP

```
echo "short_open_tag = On" >> /etc/php5/apache2/php.ini
```

Node.js

- Check that the **config.ini** and **custom.ini** have the correct values for **daemon_api_url** and **stalker_api_url**

Apache

- Enable **mod_rewrite**:

```
a2enmod rewrite
```

- Make sure that the package *libapache2-mod-php5filter* is not installed on the system. If necessary, **remove it**.

```
apt-get purge libapache2-mod-php5filter
```

- Remove content of **/etc/apache2/sites-available/000-default.conf** **Do not forget to make backup.**

```
cat /dev/null > /etc/apache2/sites-available/000-default.conf
```

- Add next content to **/etc/apache2/sites-available/000-default.conf**

```
<VirtualHost *:88>
        ServerAdmin webmaster@localhost
        DocumentRoot /var/www
        <Directory /var/www/stalker_portal/>
                Options -Indexes -MultiViews
                AllowOverride ALL
                Require all granted
        </Directory>
        ErrorLog ${APACHE_LOG_DIR}/error.log
```

```
        CustomLog ${APACHE_LOG_DIR}/access.log combined
</VirtualHost>
```

- Set in **/etc/apache2/ports.conf**:

```
Listen 88
```

- Restart apache:

```
service apache2 restart
```

Nginx

- Example of configuration **/etc/nginx/sites-available/default** :

```
server {
    listen       80;
    server_name  localhost;

    location / {
        proxy_pass http://127.0.0.1:88/;
        proxy_set_header Host $host:$server_port;
        proxy_set_header X-Real-IP $remote_addr;
    }

    location ~* \.(htm|html|jpeg|jpg|gif|png|css|js)$ {
        root /var/www;
        expires 30d;
    }
}
```

- Restart nginx

```
service nginx restart
```

- **Admin interface** will be available via URL
  http://<your_ip_or_domain_name>/stalker_portal/server/adm/.

Default access:
login: admin
password: 1
The recommended browser for the admin interface: - Mozilla Firefox and Google Chrome
If it is necessary you can change the admin password in MySQL:

```
update administrators set pass=MD5('new password') where login='admin';
```

- **Client interface** is available http://<ip>/stalker_portal/c/. **Client interface designed for STB MAG* only**.
- **New Client interface** is available http://<ip>//stalker_portal/new/launcher/. **By default .htaccess has deny from all**.

Portal URL can be set in STB:

1. From Embedded portal - *System Settings (press SET or SETUP) → Servers → Portals → (Portal 1 URL and/or Portal 2 URL)*
2. Manually set variable *portal1* and/or *portal2*. For example: connect via SSH and use command fw_setenv portal1 http://<your_ip_or_domain_name>/stalker_portal/c/index.html

Utility **fw_setenv** is described in documentation Operator guide Section: Utilities description, page 26.
The most used variabls

Updating and Localization

Updating

1. Rename the folder with the previous version. For exemple: **stalker_portal-old**.
2. Download and unzip the file with the new version;
3. Copy **custom.ini** file from old version to the new one;
4. Copy **/var/www/stalker_portal/screenshots/** folder from old version to the new one;
5. Copy all files (except the **dummy.png** file) from **stalker_portal/misc/logos/** folder to new version.;
6. Enter into **/var/www/stalker_portal/deploy/** and run command:

```
sudo phing
```

Localization

Middleware Stalker interface uses 2 locales: RU, EN. In default Stalker deducts the current localization variable from the main software and install the interface localization according to it's variable.

To install Stalker portal localization by default it is neccessary:

- to create file **custom.ini** in directory **.../stalker_portal/server/**;
- to copy in **custom.ini** the section [Locales] from file **...//stalker_portal/server/config.ini**;
- to edit **custom.ini**

Containing of **custom.ini**:

```
[locales]
default_locale = en_GB.utf8
;allowed_locales[Russian] = ru_RU.utf8
allowed_locales[English] = en_GB.utf8
```

In this case Stalker portal will be loaded with english interface independantly from the software locale.

Attention!The name of the locale used in the Middleware and the name of server system locale should be the same.

Interface localization in other language

For correct localization switching in Admin interface next locales should be installed on the server

- **en_GB.utf8** for English
- **ru_RU.utf8** for Russian
- **uk_UA.utf8** for Ukrainian
- **pl_PL.utf8** for Polish

Configuration of the Storage (separate server)

Necessary services & packets

```
1. apache2
2. php5 >= 5.3.0
3. php-soap
4. python-argparse (for TV recording)
5. nginx (for "TV Archive", recording or VOD via HTTP)
```

Installation order

- **1.** Install all necessary services & packets.

for example:

```
apt-get install -y -u apache2 php5 php-soap python2.7 nginx
```

- **2.** Download and unzip the file with release of "Stalker" portal "Stalker" download page. Copy the directory **/stalker_portal/storage/** in your web-server directory **/var/www/stalker_portal/storage**;

- **3.** To enable recording for **"TV Archive"** fucntion it is necessary to run next command in **/var/www/stalker_portal/storage/**:

```
chmod a+x install.sh
./install.sh
```

- **4.** Edit file **/var/www/stalker_portal/storage/config.php**:

For exemple:

```
define('VIDEO_STORAGE_DIR', '/media/raid0/storage/');
```

```
define('KARAOKE_STORAGE_DIR', '/media/raid0/karaoke/');
define('RECORDS_DIR', '/media/raid0/records/');
define('NFS_HOME_PATH', '/media/raid0/mac/');
// Use login and password from the configuration file. (api_auth_login and
api_auth_password in server/custom.ini)
define('API_URL', 'http://login:password@192.168.1.71/stalker_portal/api/');
define('PORTAL_URL', 'http://192.168.1.71/stalker_portal/');
define('STORAGE_NAME', 'bb3');
```

where is:

VIDEO_STORAGE_DIR - directory for files of "Videoclub" storing;

KARAOKE_STORAGE_DIR - directory for files of "Karaoke" storing;

RECORDS_DIR - directory for files **PVR** and **"TV Archive"** storing; "TV archive" settings;

NFS_HOME_PATH - STB's home directory;

API_URL - URL, which will be used for channel recording request from middleware. Watch "TV archive" settings:

PORTAL_URL - portal address. At this address will be sent to requests from "storage" to check the keys to access the archive;

STORAGE_NAME - storage name.

- **5.** Create directories **/media/raid0/storage/, /media/raid0/karaoke/, /media/raid0/records/, /media/raid0/mac/** and set permition **0777** to them.

```
mkdir -p -m 0777 /media/raid0/storage /media/raid0/karaoke
/media/raid0/records /media/raid0/mac
```

- **6.** Create directory **/var/www/media/**

```
mkdir /var/www/media
```

- **7.** Create symlink to the STB's home directories in **/var/www/media/**:

```
ln -s /media/raid0/mac/ /var/www/media/<storage name>
```

- **8.** In **Admin interface of portal** → **"Storage"** make next settings:
  - **Name** - <storage name>. For example: bb3;
  - **IP** - IP address of storage;
  - **Home directory** - <STB's home directory>. For example: **/media/raid0/mac/**
- **9.** Configuring Apache, Nginx:

Configuring Apache, Nginx

Apache

- In **/etc/apache2/ports.conf** set next:

```
NameVirtualHost *:88
Listen 88
```

- In **/etc/apache2/sites-enabled/default.conf** change **<VirtualHost *:80>** to **<VirtualHost *:88>**
- If there will be TV Archive then it is necessary to add directive VirtualHost inside the block

```
TimeOut 1800
```

- Attention!Make sure that the package ***libapache2-mod-php5filter*** is not installed on the system. If necessary, **remove it**.
- Restart apache.

Nginx

- For example:

```
server {
    listen       80;
    server_name  example.com;

    location / {
        proxy_pass http://127.0.0.1:88/;
        proxy_set_header Host $host;
        proxy_set_header X-Real-IP $remote_addr;
    }

    location ~* \.(mpg|mpeg|avi|ts|mkv|mp4|mov|m2ts|flv|m4v|srt|sub|ass)$ {

        secure_link $arg_st,$arg_e;
        secure_link_md5 "supersecret$uri$remote_addr$arg_e"; # you can
change secret "supersecret" in the portal config - nginx_secure_link_secret

        if ($secure_link = "") {
            return 403;
        }

        if ($secure_link = "0") {
            return 410;
        }

        send_timeout 6h;
        root /var/www/;
    }
}
```

"TV archive" settings

Before turning on **"TV archive"** option in TV channels, it is necessary to configure the "storage".
Attention! Only multicast streams can be recorded! Multicast streams should be available on the "Storage"

Checking of the availability of multicast streams can be performed with help of `dumprtp` utility. Utility `dumprtp` is included in `dvbstream` packet.
Example:

```
dumprtp 239.1.1.1 1234 > dump239.1.1.1.ts
```

where:

- 239.1.1.1 - IP address of multicast stream
- 1234 - port of multicast stream
- dump239.1.1.1.ts - file name with dump of multicast stream.

Received files can be played by any player (for example: VLC).

- Make sure that memcached is installed and worked on the server.

- In Admin interface → **"Storages"** it is necessary to choose server and setup **"TV record"** option.

- At the storage **/var/www/stalker_portal/storage/config.php** necessary to setup RECORDS_DIR, API_URL, PORTAL_URL and STORAGE_NAME.

where is:

RECORDS_DIR - directory with permission 0777, there will be create **archive** directory, which will contain all files.

API_URL - URL, which will record the channels from middleware. Usually it is **http://<middleware directory>/api/tv_archive/**.

To check it you can open your <API_URL>/tv_archive/ in browser and there should be next:
{"status":"ERROR","results":null,"error":"Empty storage name"}
If there is an error **404 Not Found**, then you have wrong configuration in **apache** and **mod_rewrite**.

> 📝 **note**   `/tv_archive` - **virtual directory! Do not create it manually!**

PORTAL_URL - portal address. At this address will be sent to requests from "storage" to check the keys to access the archive;

STORAGE_NAME - storage name, which indicated in Admin interface.

- Create directory /media/raid0/records/archive/

```
mkdir -m 0777 /media/raid0/records/archive
```

- Create symlink of folder with archive in web server directory

```
ln -s /media/raid0/records/archive/  /var/www/
```

- While editing **TV channel** in Admin interface you can choose **"Enable TV archive"** option.
- Ensure that the Apache configuration file have directive

```
TimeOut 1800
```

Security

Web

User identification

First of all it is necessary to turn on rpaf module in apache. It allows to see the real IP address of user while working in nginx and use restricting access in apache configuration file.

```
sudo apt-get install libapache2-mod-rpaf
```

Restricting access in Admin interface

To improve security of Admin interface it is strongly recommended to use the same IP address for opening. This can be set in apache configuration file, where portal's host is described. After making changes it is necessary to restart apache.

```
<Directory /var/www/stalker_portal/server/administrator/>
    Order Deny,Allow
    Deny from All
    Allow from 192.168.1.0/24
</Directory>
```

STB - Authorization

> ⚠️ **Strongly recommended!** For client portal's access to use STB authorization by login/password, "Authorization with key" method.

Disable support for emulators and thirs party devices

Add in custom.ini next string

```
disable_third_party_devices = true
```

Portal access limitation for new STBs

Beginning from 4.8.63 portal version there is new option appeared *default_stb_status*, which allows to close portal access for all new STBs. To enable this option it is necessary to add in `server/custom.ini`:

```
default_stb_status = 0
```

For old version in MySQL it is necessary to do:

```
ALTER TABLE `users` MODIFY `status` tinyint DEFAULT 1;
```

After this all new STBs will have status **OFF** in admin interface.

Access to portal using login&password

Simple authorization

Access to portal organization for new STBs using login&password. Portal admin creates login&password and provide them to user. While first loading there will be authorization window which request login&password. After successful authorization MAC address will be adjust to login. Further portal loading will be without authorization.

For this it is necessary to:

1. In `custom.ini` add next

   ```
   auth_url = http://localhost/stalker_portal/server/tools/auth_simple.php
   ```

2. In admin interface *users > add* - add user, it is enough to specify *login* (unique) and *password*. MAC address field should be empty.

Authorization with key

Access to portal organization by login&password. Portal admin creates login/password and provide them to user. While first loading there will be authorization window which request login&password. After successful authorization new key will be generating which is based on lgin&password. This key is stored on STB, which will validates while next portal loading. If the same login&password will be used for another STB than previous one will be un-authorized automatically.

For this it is necessary to:

1. In `custom.ini` add next

   ```
   auth_url =
   http://localhost/stalker_portal/server/tools/auth_every_load.php
   ```

2. In admin interface *users > add* - add user, it is enough ti specify *login* (unique) and *password*. MAC address field should be empty.

API

> ⚠ **We are strongly recommend to pay attention on safity while API enable/use.**
> Recommendation about using:
>
> - Authentication (login&password) for access to API.
> - Strong passwords.
> - Firewall.

Billing

If it is necessary to turn on API for working with external billing systems then it is strongly recommended to use authorization. Specify the login and password in *server/custom.ini*.

```
[server_api]
; API required for tv archive, pvr and billing
enable_api = true
```

```
api_auth_login = login ; login specifying
api_auth_password = password ; password specifying
```

Storage configuring

On the storages, which are used for recording, it is necessary to specify TASKS_API_URL parameter with login and password (in *storage/config.php*):

```
define('TASKS_API_URL',
'http://login:password@localhost/stalker_portal/api/tv_archive/');
```

Temporary URLs

If the Wowza temporary URLs are using for playing, then it is necessary to specify the login and password for work with API in configuration of Wowza application. It is not necessary to specify them if nginx and VLC/udpxy are used.

API address setting in configuration file of *Wowza*:

```
<Property>
    <Name>stalkerApiServer</Name>
    <Value>http://login:password@192.168.1.1/stalker_portal/api/</Value>
</Property>
```

TV channel monitoring

In script *check_channels.sh* API_URLit is necessary to specify authorization URL:

```
API_URL=http://login:password@localhost/stalker_portal/api/monitoring_links/
```

Firewall

It is recommended to make access on 88 port (apache) for local access and access from storage, which are working with temporary URLs.

[1)]
Attention! Ubuntu Server 16.04 LTS is not supported at the moment since some packets unstable in distribution.

From:
https://docs.infomir.com.ua/ -

Permanent link:
https://docs.infomir.com.ua/doku.php?id=en:stalker:install_and_configure

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