

LeMedia Tutorial

V1.0

2015-11-25



LEMAKER
www.lemaker.org

Revision History

Revision	Date	Author	Description
1.0	2015-11-25	Jerry	Initial

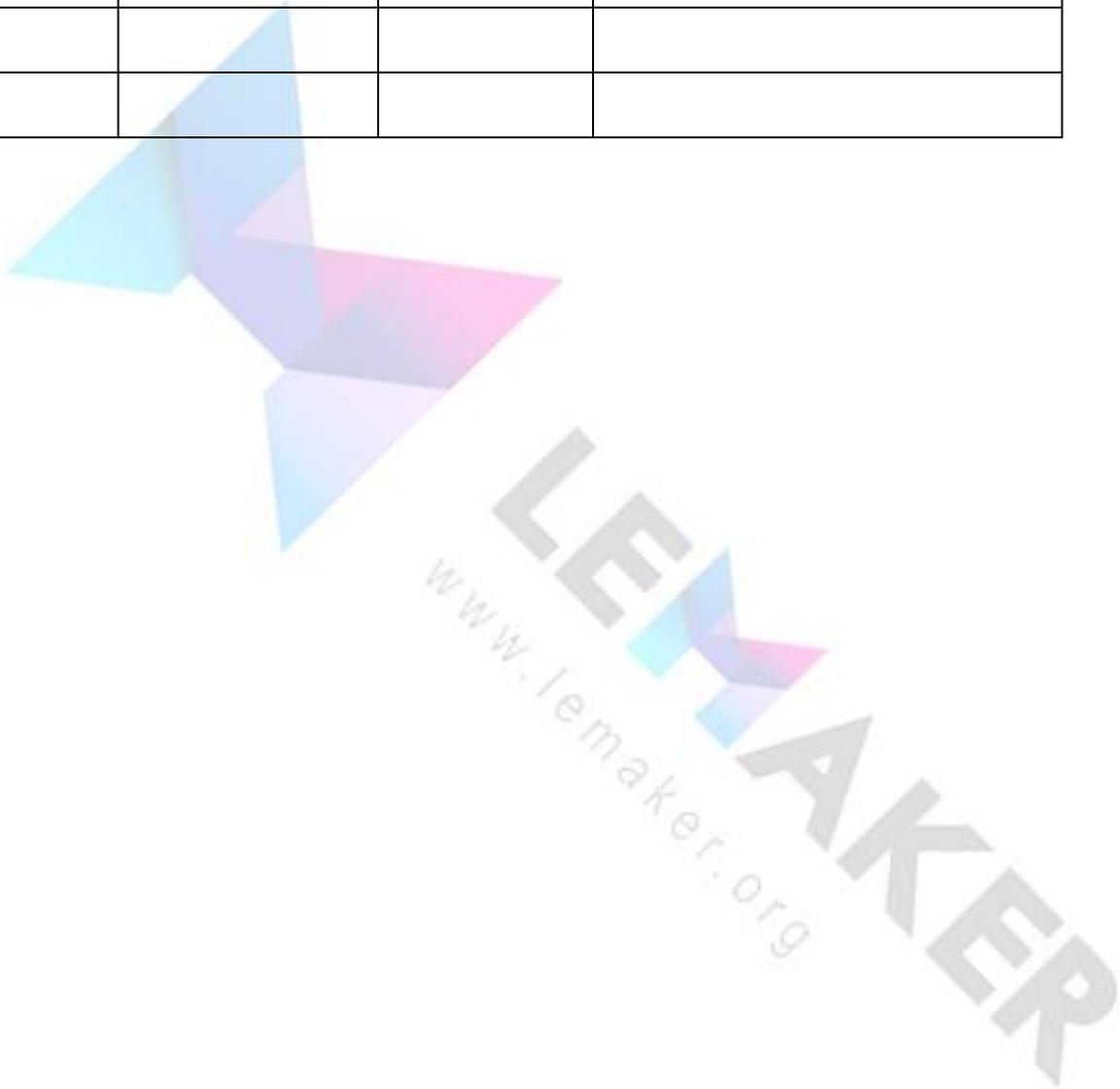


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1 What is LeMedia

Speaking LeMedia, let's first talk about what Kodi, Kodi, is formerly known as XBMC, starting from XBMC14.0, XBMC officially changed its name to Kodi. Kodi is an excellent free and open source (GPL) software media center. Kodi was originally developed for the Xbox, we can run in Linux, OSX, Windows, Android system, allowing users to play most video, music, podcasts and a variety of common digital media files stored in local or network. Kodi is customizable, there are many software can change the appearance of the skin and a variety of add-ons can access Internet content. And Kodi allows us to watch and record live TV all from the GUI interface.

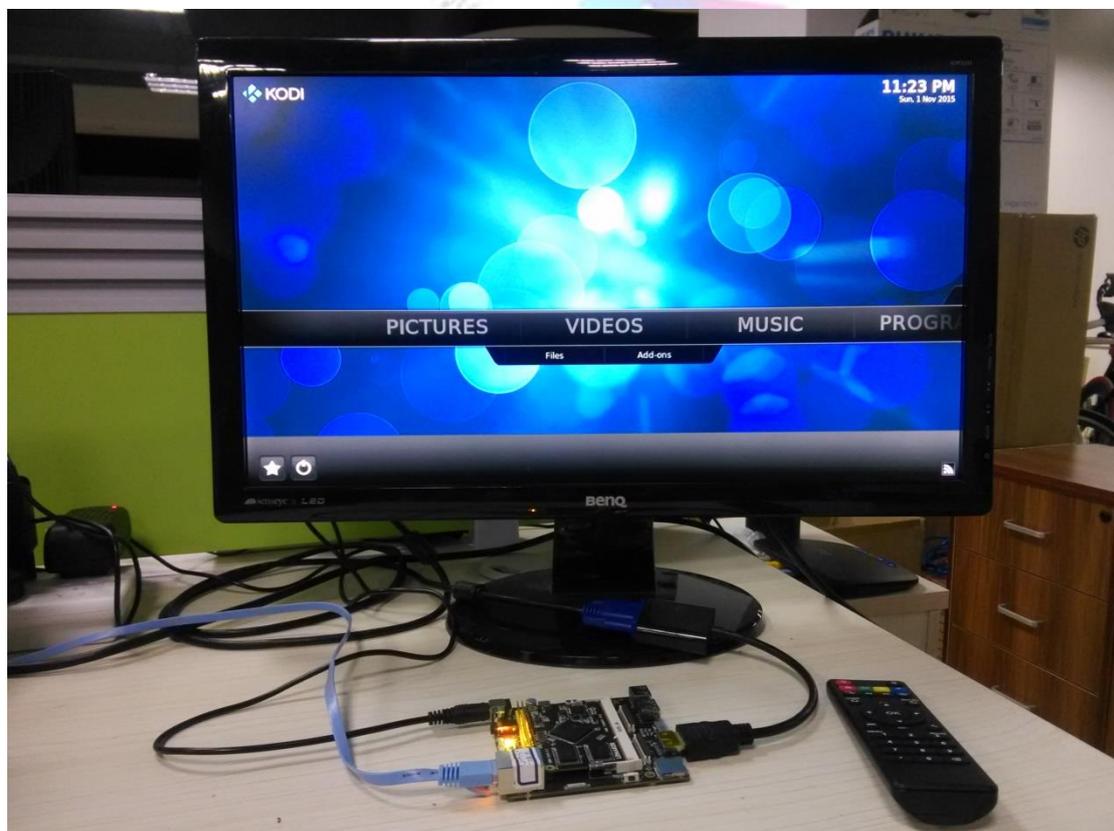
LeMedia developed by LeMaker team based on Kodi and Debian (one Distribution of Linux) is a multimedia system tailored for LeMaker SBC (here we use LeMaker Guitar demo). LeMedia can run on LeMadia SBC as a media center, by LeMedeia we can play games on local and network, browse video, music, pictures or other digital media files. LeMedia can achieve all the features of Kodi, we can refer Kodi relevant information, and there are vast amounts of Kodi resources in the network. Now, let me talk about LeMedia basic use.

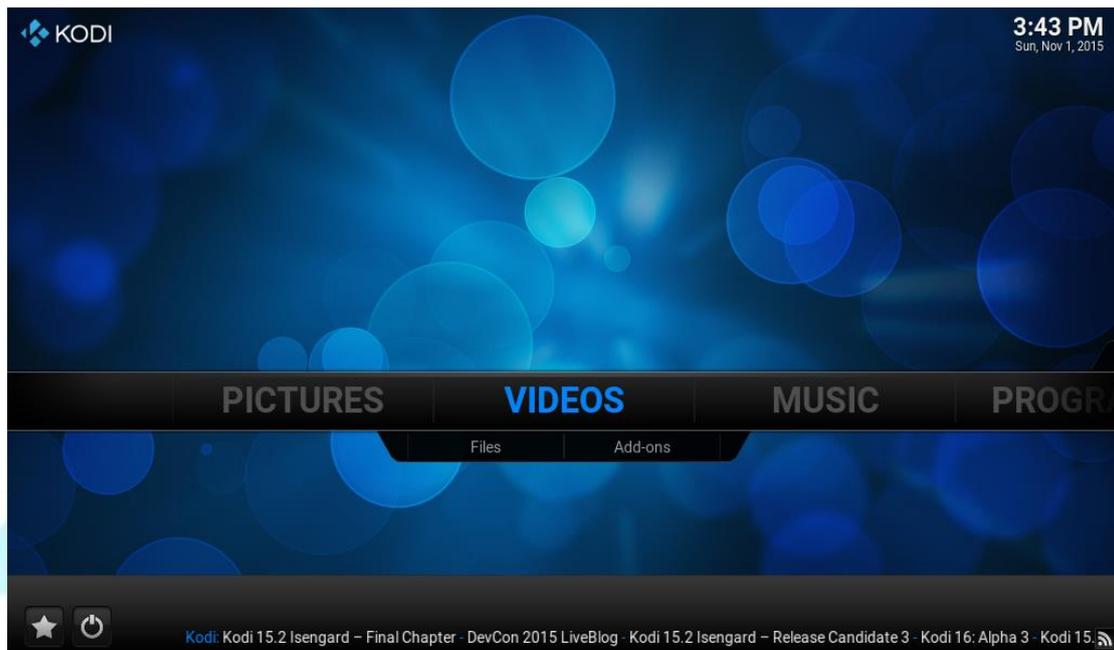


The figure shows us the kit used to build a media center by LeMaker Guitar, LeMedia can use the mouse and keyboard control, but here we use the remote control that well adapted with LeMaker Guitar to control the SBC, as shown below:



Now let's power-up LeMaker Guitar with LeMedia system, we can see the following interface.

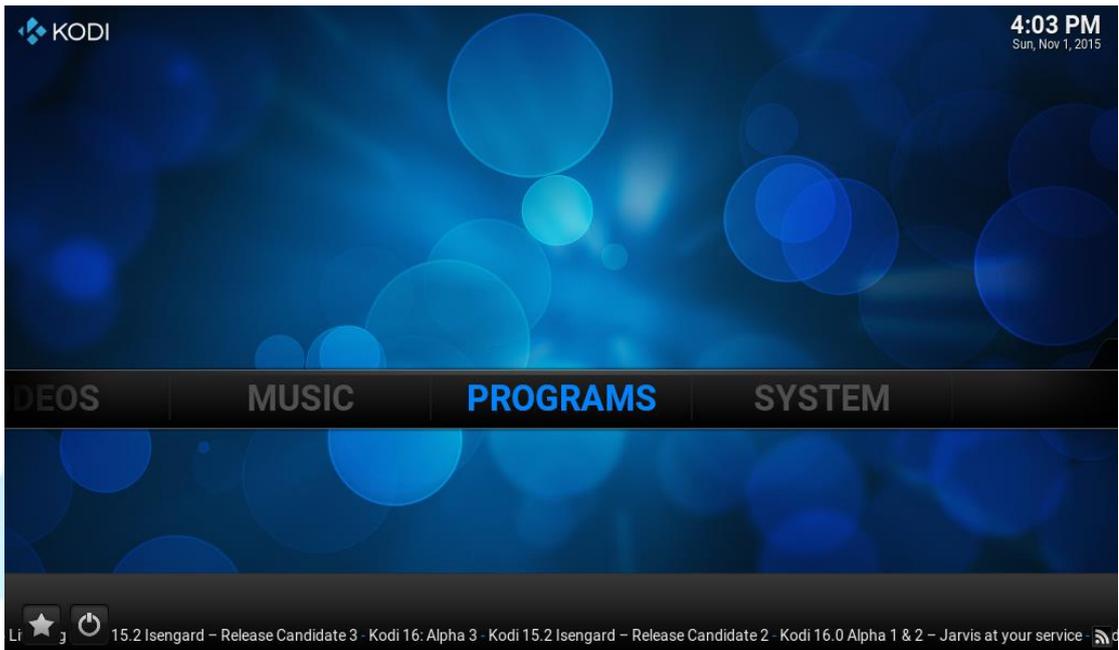




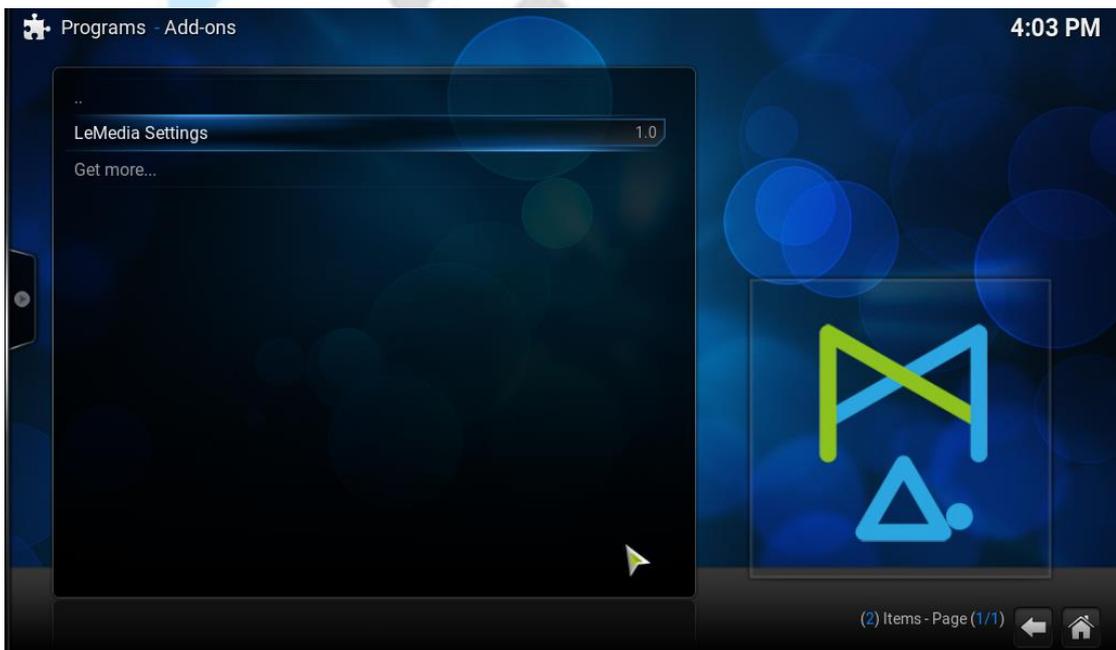
2 Connect the network

First, you'd better be able to connect to the network, so you can use its more perfect features. Of course, if you just want to see the local video, you can omit this step. We use a network cable connect to the Internet. If you do not have an extra network cable, you can also use the WiFi to access internet, since LeMaker Guitar have onboard WiFi module. Next, we talk about the WiFi setting.

(1) First, select **[PROGRAMS]** to enter the program settings;

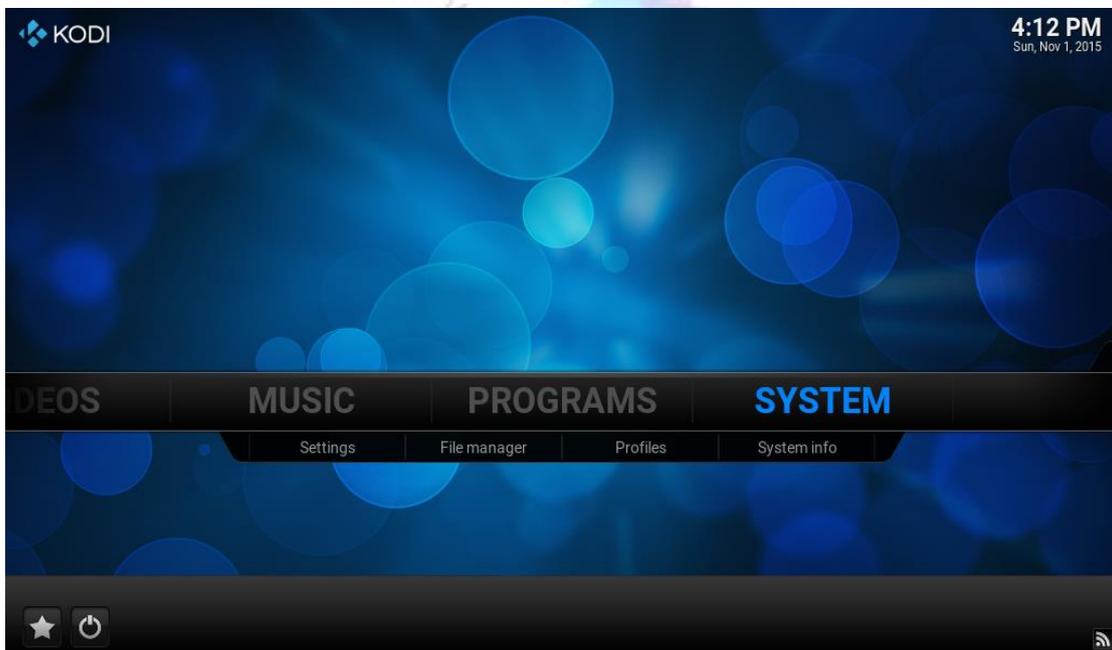


(2) Select **[LeMedia Settings]** to enter WiFi configuration interface, Fill in the username and password and then select **[Connect to WIFI]**;





(3) When we have completed the steps, we can check whether the network is connected, and we can see CPU utilization. Return to the main interface to select **[SYSTEM]** -> **[System info]**, we can see the system information including the IP address and CPU utilization here. If an IP address is assigned, then Kodi is connected to the Internet.





3 Play Video

we can use LeMedia to play local videos and massive videos on the internet.

3.1 Play local video

When it comes to video necessarily need to mention scraper, which is a software for media player device to collecting movie information and presented it to the audience, such as TMDb (The MovieDatabase). Video (music) file or folder is named according to certain rules, and the scraper automatically download the associated profiles, posters, thumbnails and other information according to the name to help us build a beautiful and useful database. In the Library mode we can view video content by type, title, year, actors and directors and so on.

(1) To allow the scraper an accurate access to video-related information, the file name of the video we gave need to follow a certain format. The file name with the years of movies can improve search accuracy, and this naming convention can get the best results. Part of the film may search multiple results. The following is a few examples naming the movie file (The MovieDatabase naming):

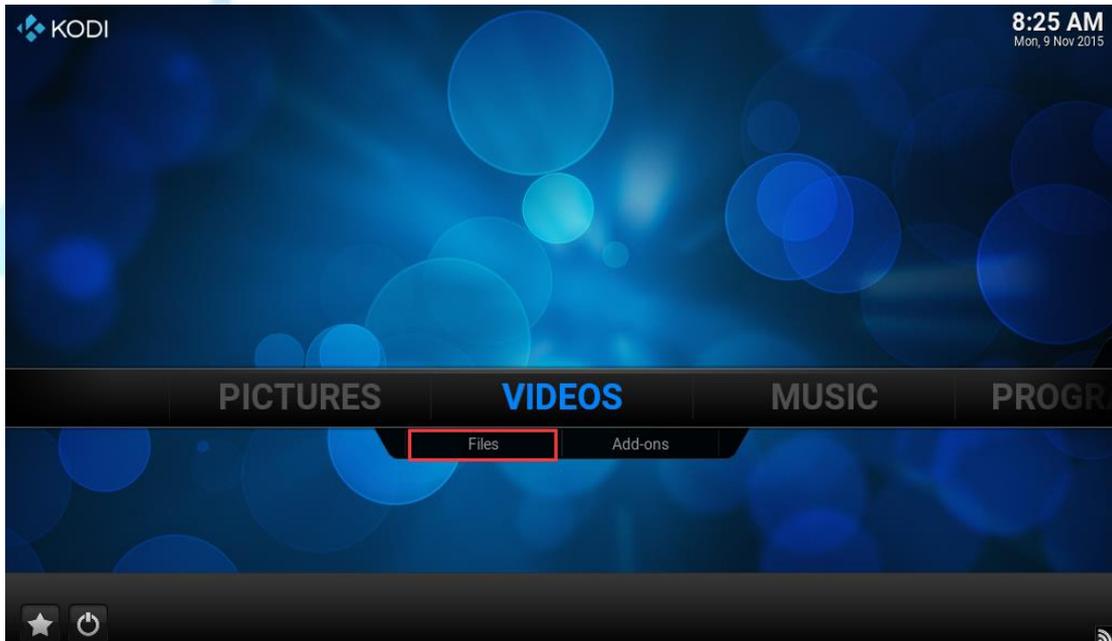
Edge of Tomorrow(2014).mp4

The Taking of Tiger Mountain(2014).mp4

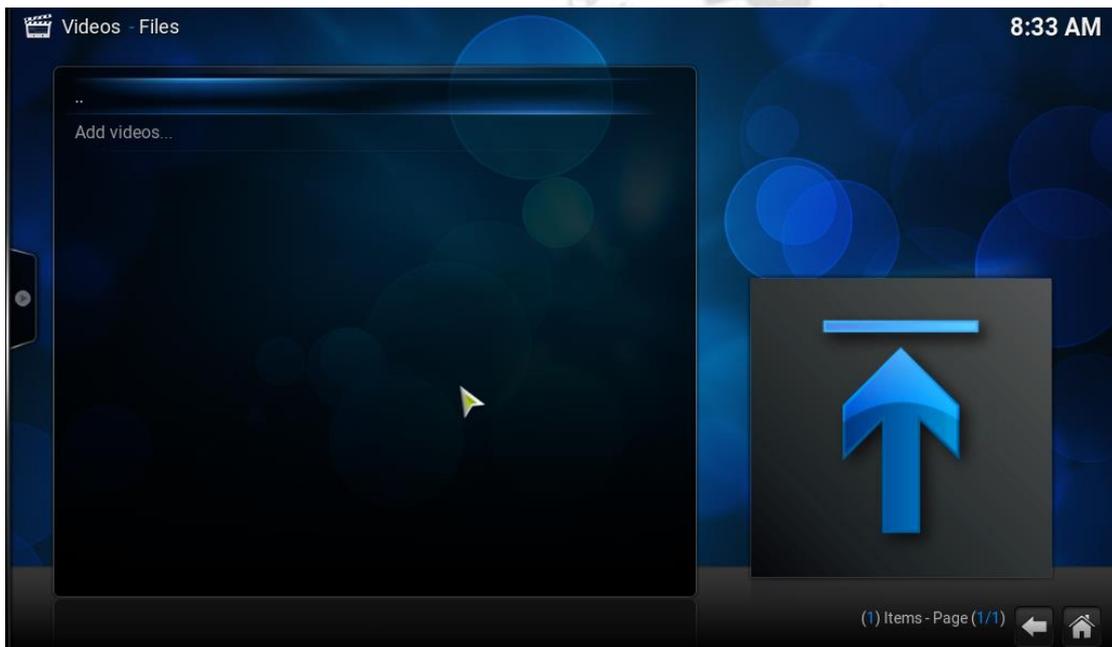
Wolf Warriors(2015).mkv

You can also find the various TV series naming method in the internet;

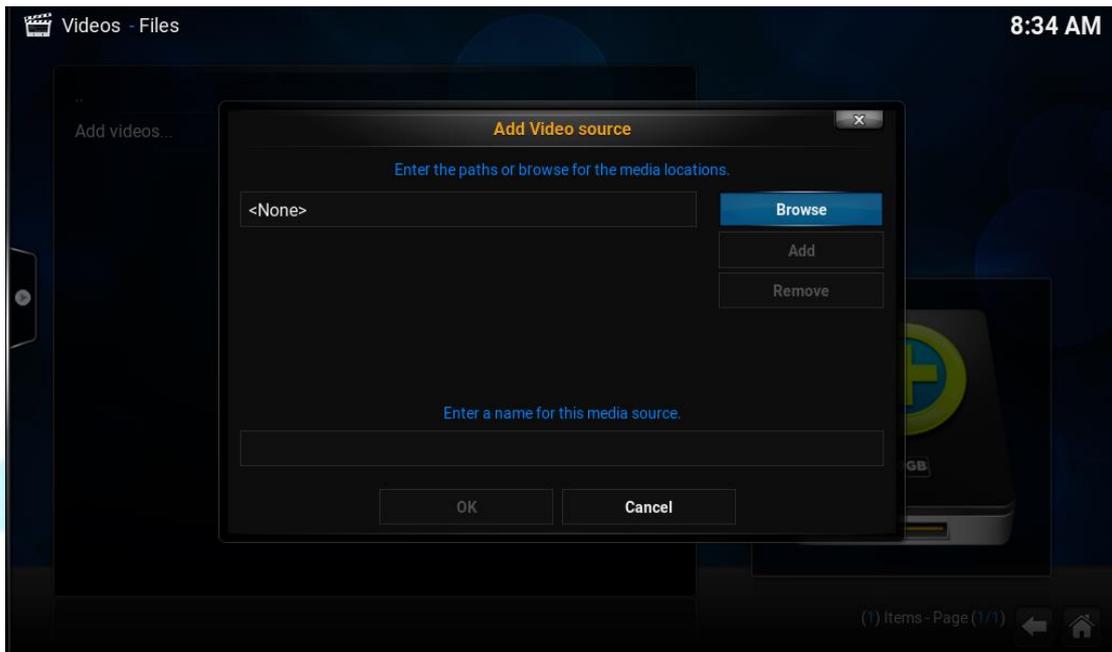
(2) Insert your external storage device, select in the main interface **[VIDEOS]** -> **[Files]**;



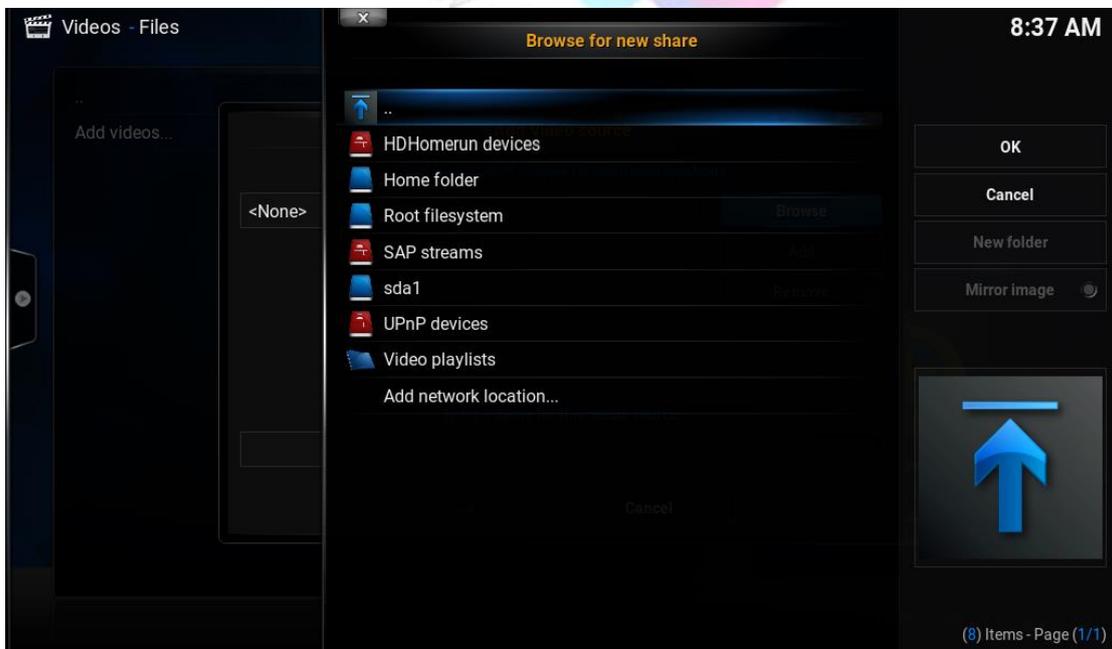
(3) Select **[Add videos]**;

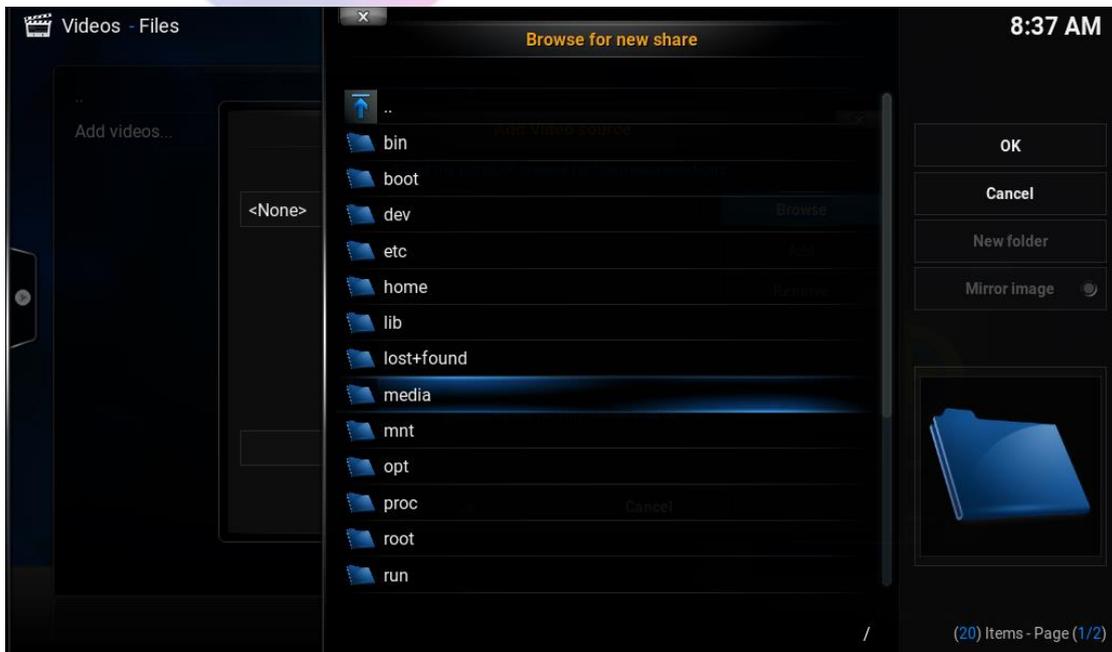
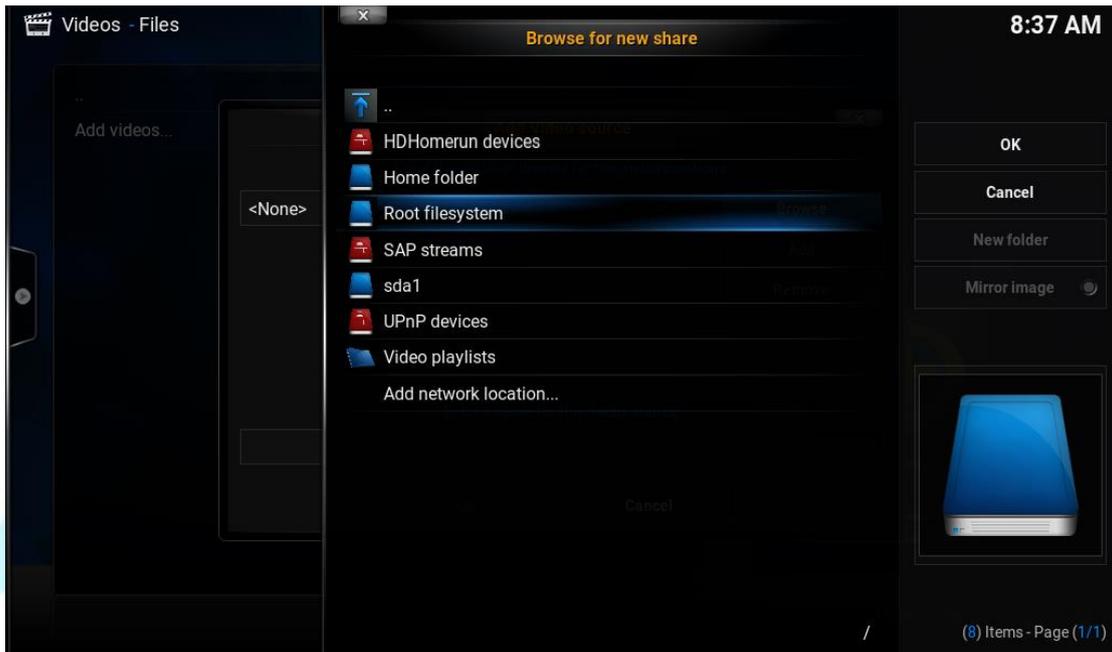


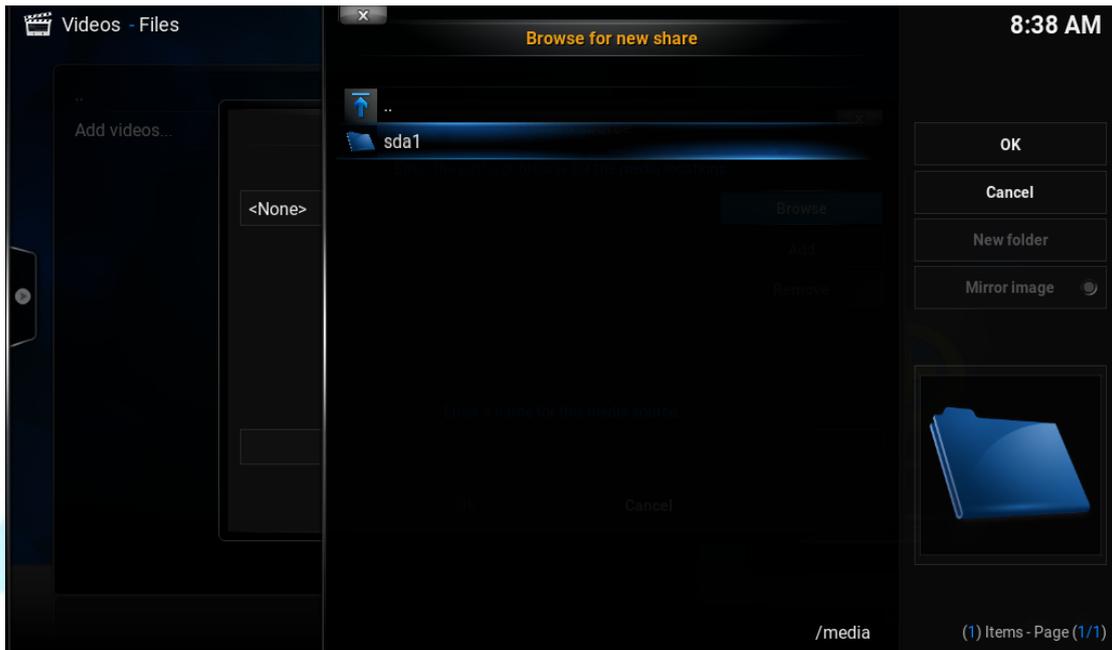
(4) Select [**Browse**];



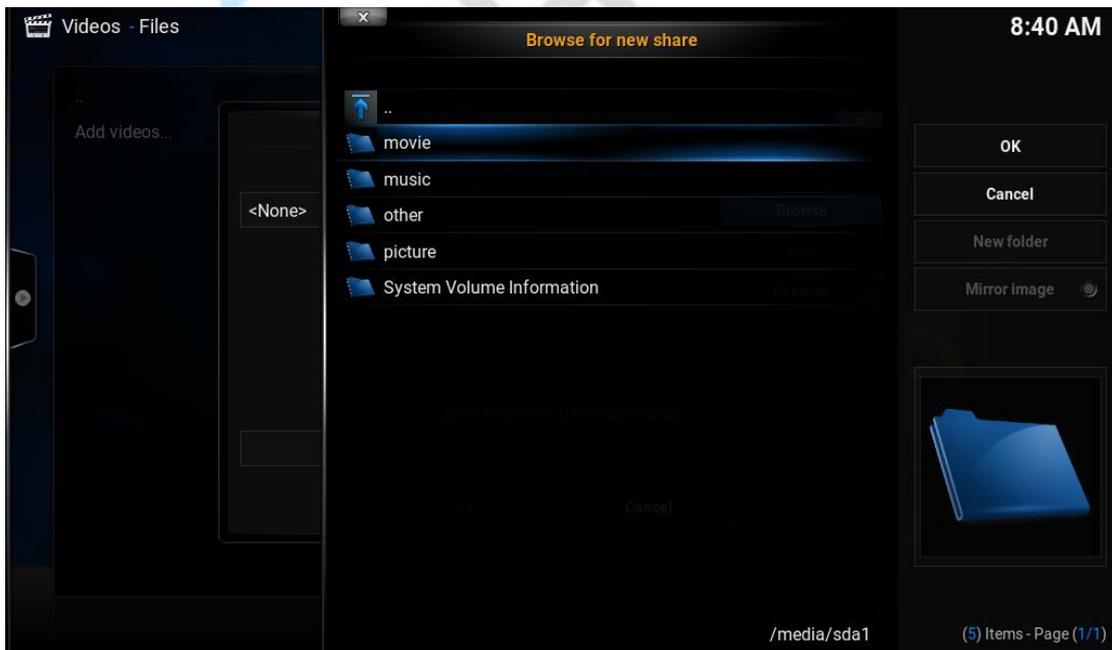
(5) Find your external device; In this case, we see the inserted external device name [**sda1**]; If you cannot find your external devices, you can select [**Root filesystem**] -> [**media**], you will be able to see your device name [**sda1**];

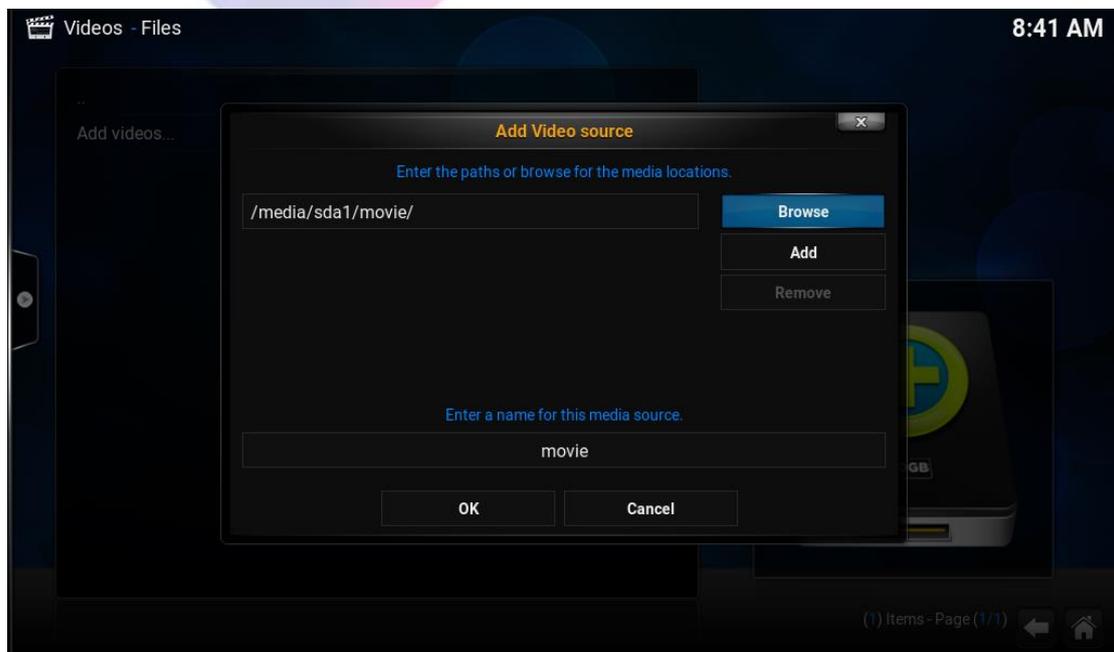
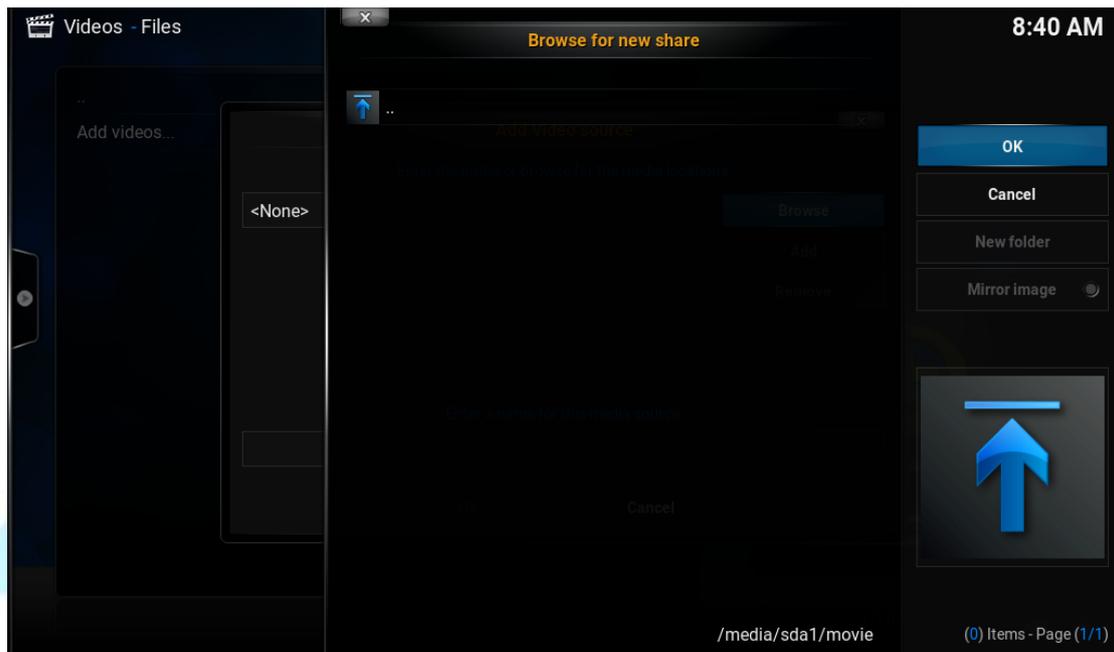




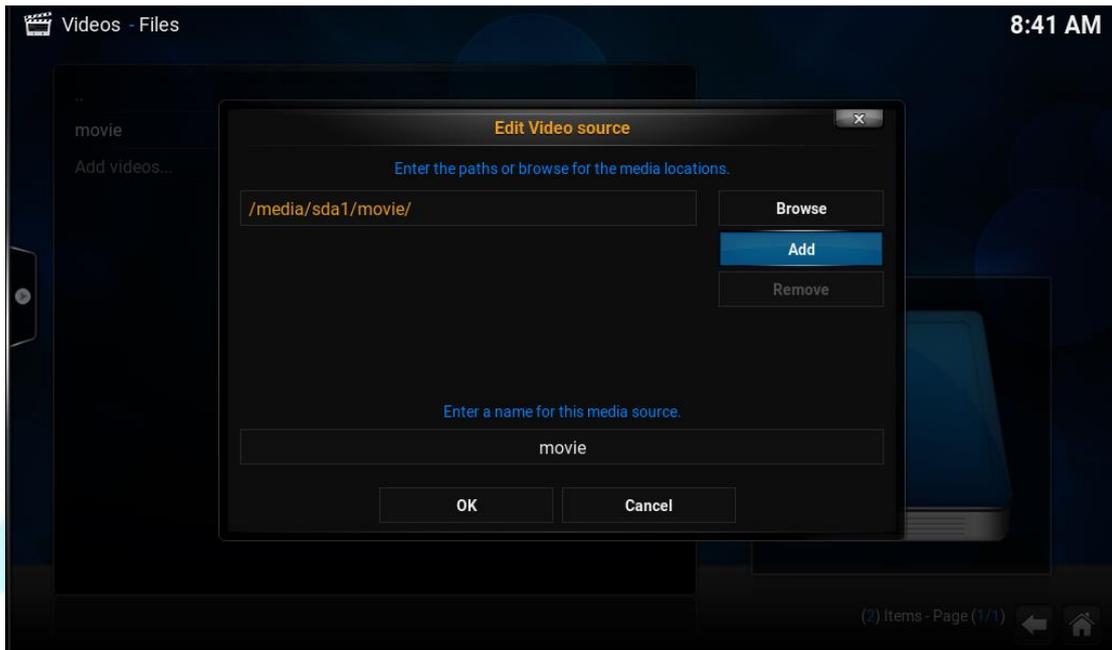


(6) Select **[sda1]**, Into the directory we can see our file directory, Enter **[movie]** directory, Select **[OK]**;

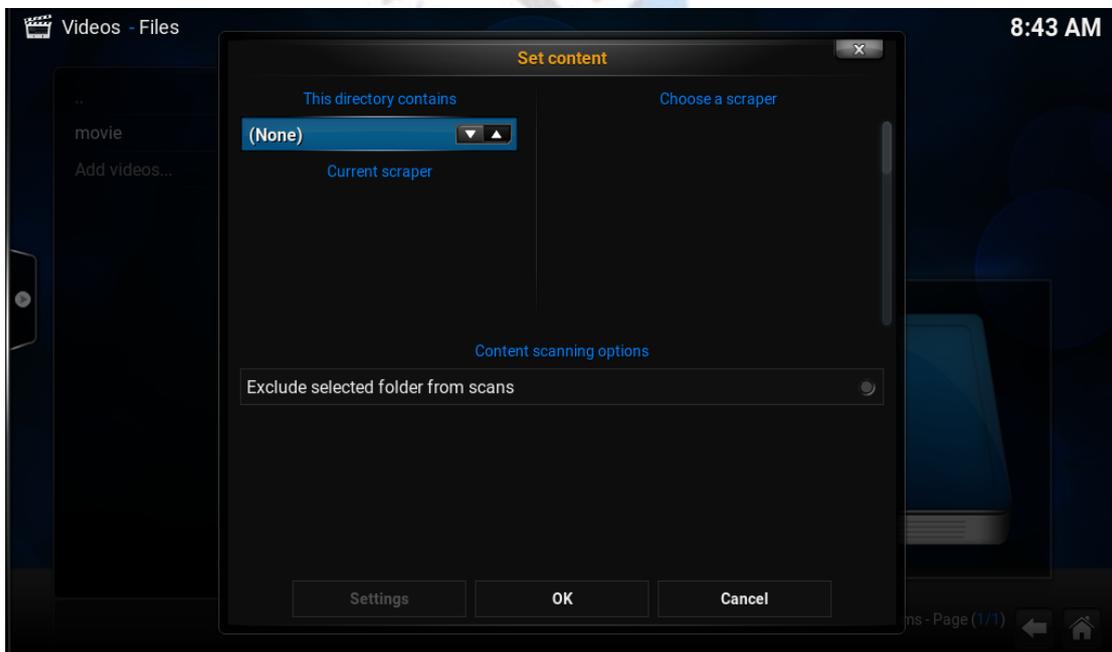


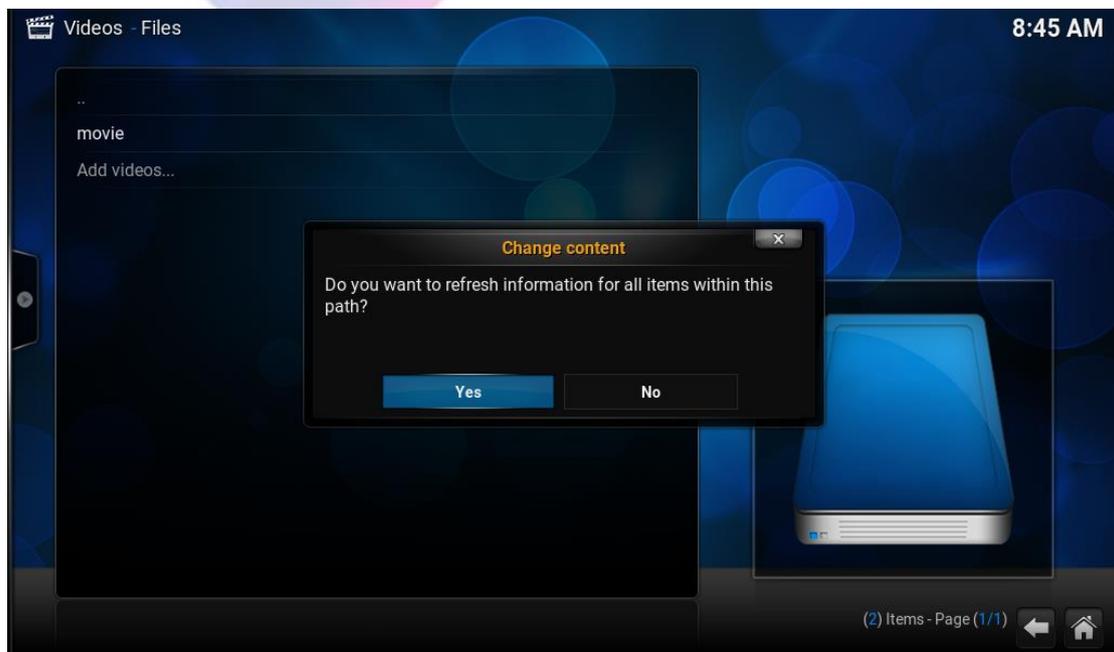
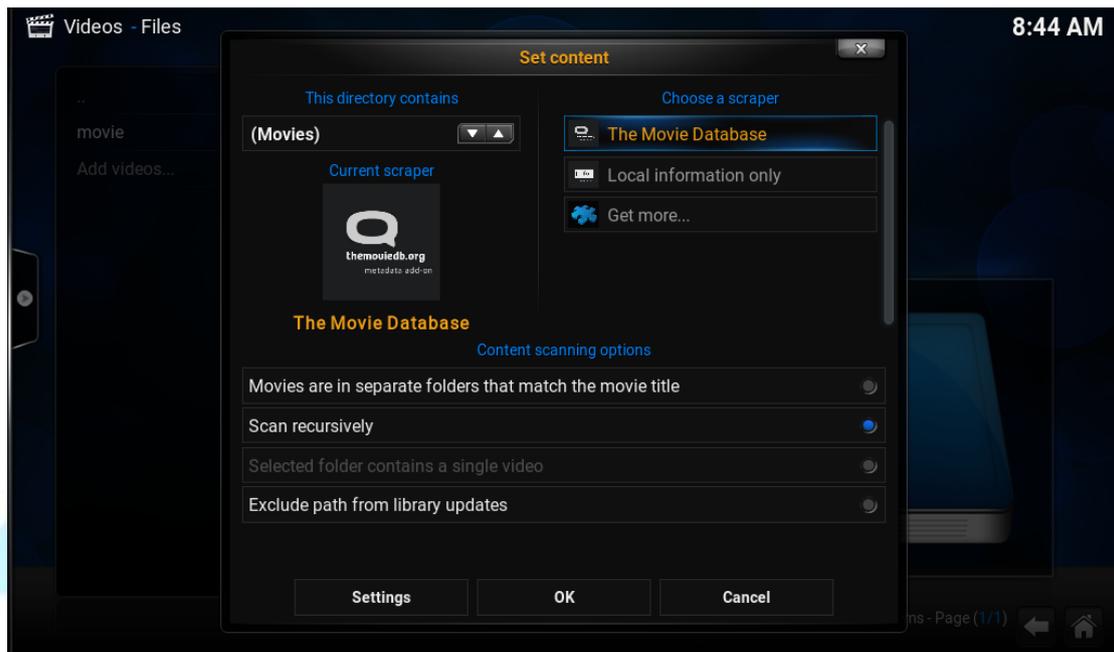


(7) When we store TV series, an external storage device may insufficient, then we can choose **[Add]** options, add another external storage device that stores remaining episodes, to add the video files to the same video source. We do not add more devices in here, you can try it out by yourself;

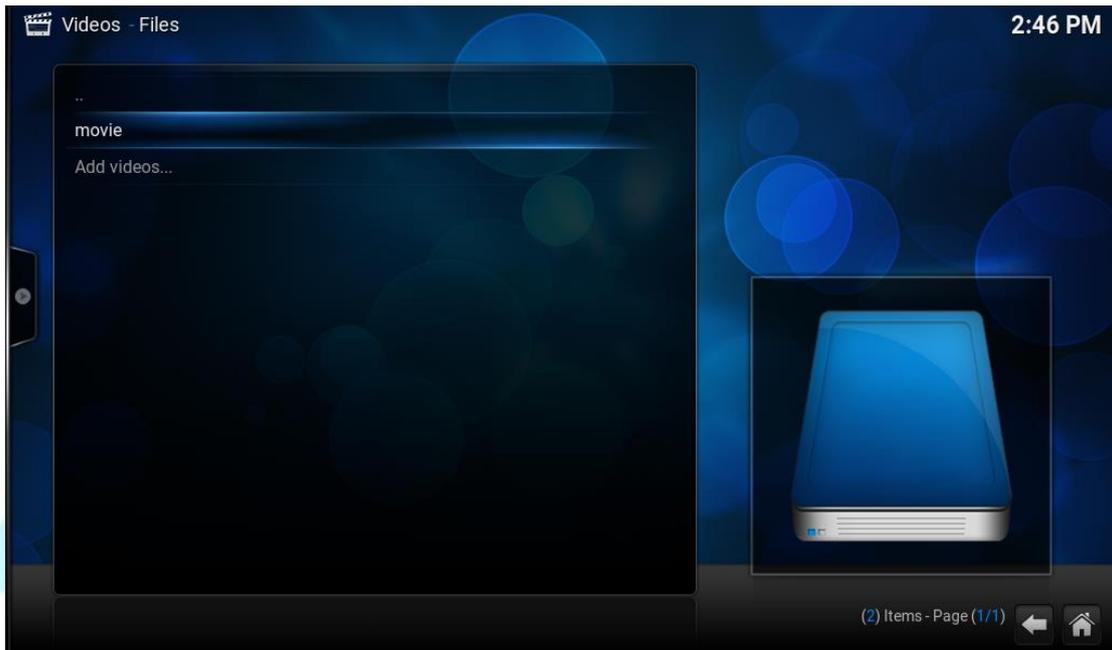


(8) In setting content interface, we choose a movie option, and select the Kodi official default video scraper [**The Movie Database**];



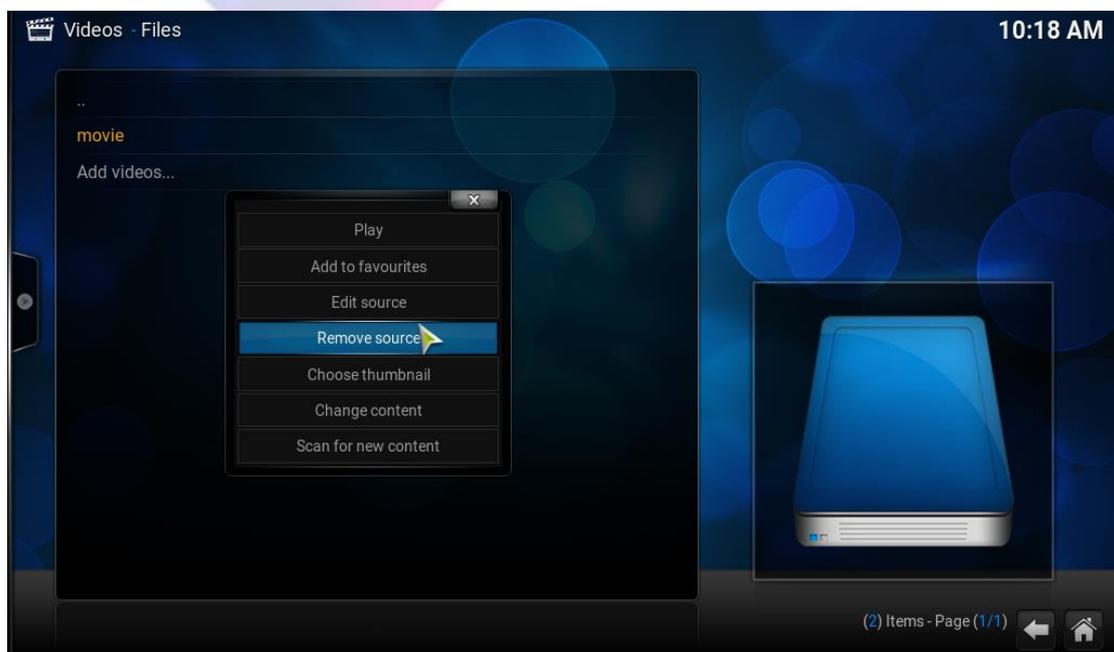
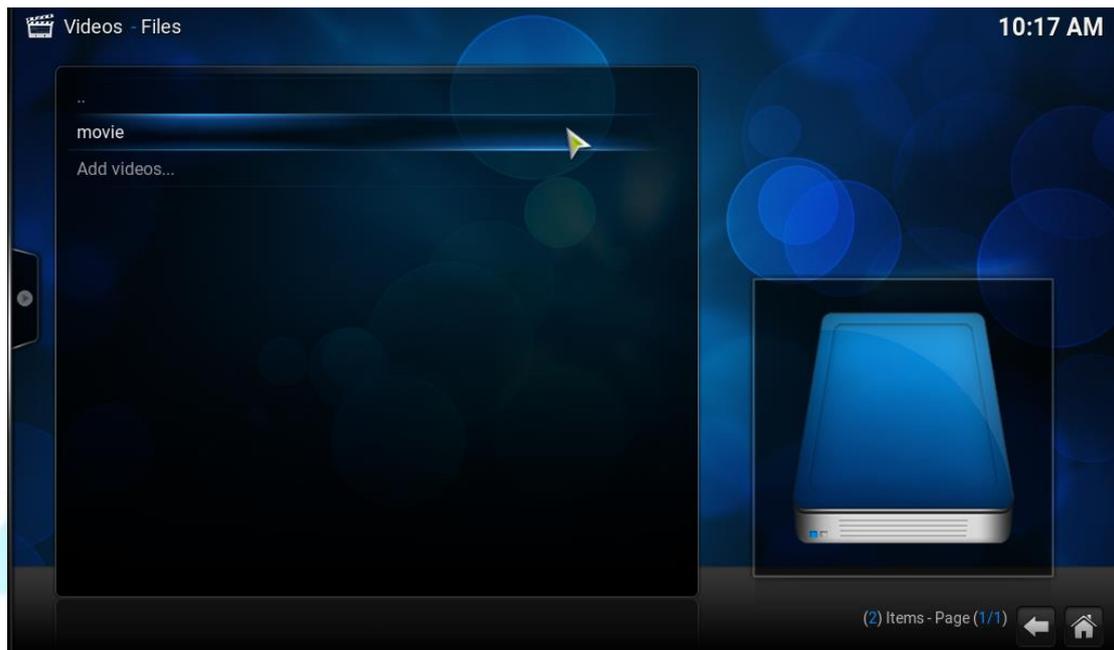


(9) We can see the video source has been added to the directory after setup;

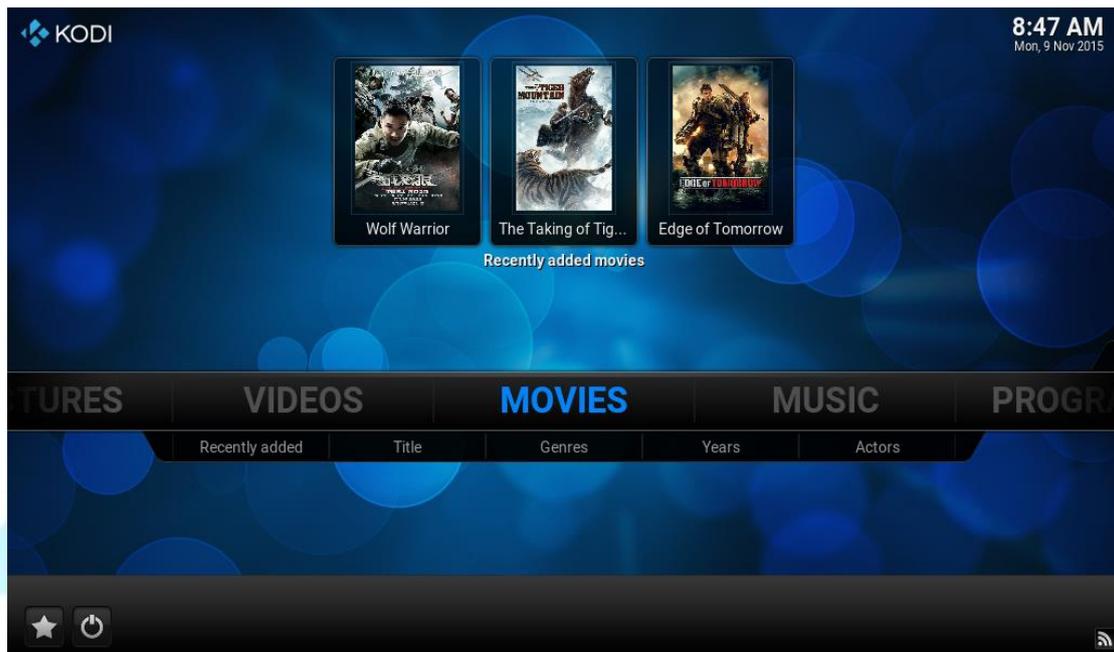


(10) If we want to delete this video source, we can use remote control to enter the mouse mode, menu button acts as the right mouse button, after entering the mouse mode mouse arrow must select the movie directory, otherwise when the mouse arrow does not selected object click the menu button will jump straight back to the home page, then click on the menu button selecting **[remove source]** options to remove the source, but we don't delete this source here;

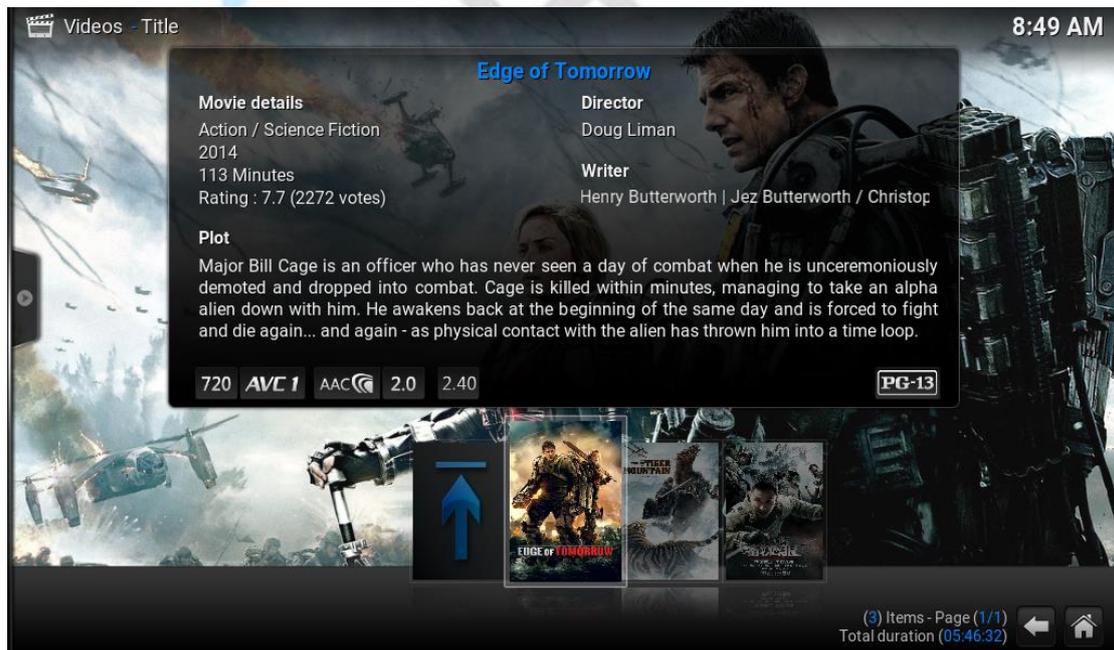


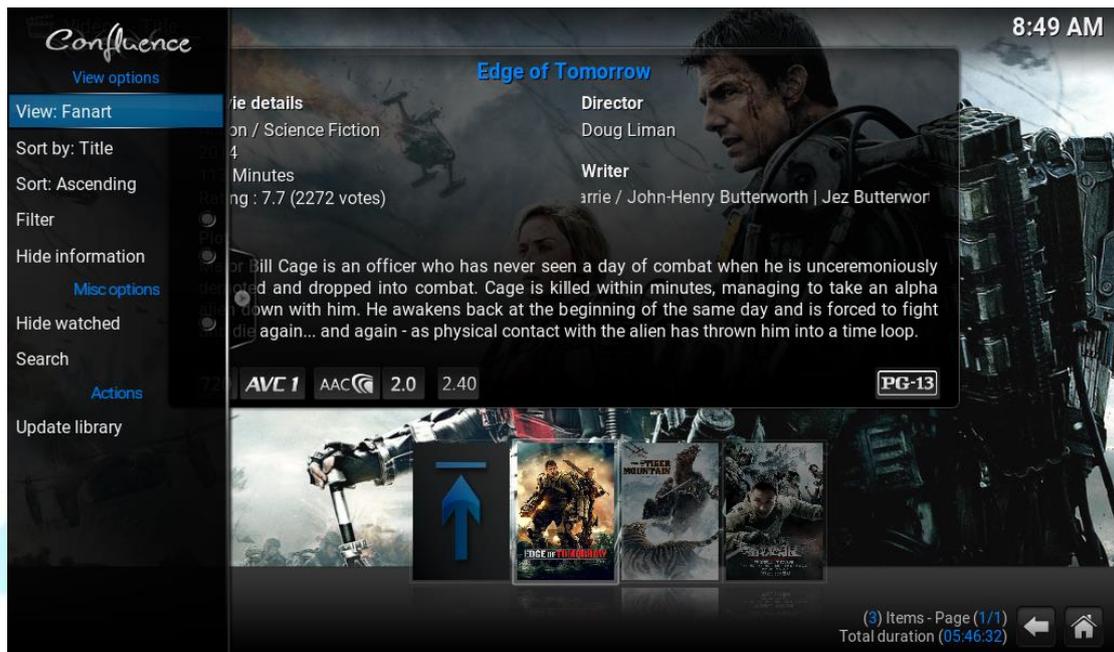


(11) After settings, let's return to the main menu, we will see the **[MOVIES]** option appears in the main menu;



(12) Select **[MOVIES]** option , we can see the movie infos. Clicking the right arrow key on the remoter control to see the view option can set our preferred format.

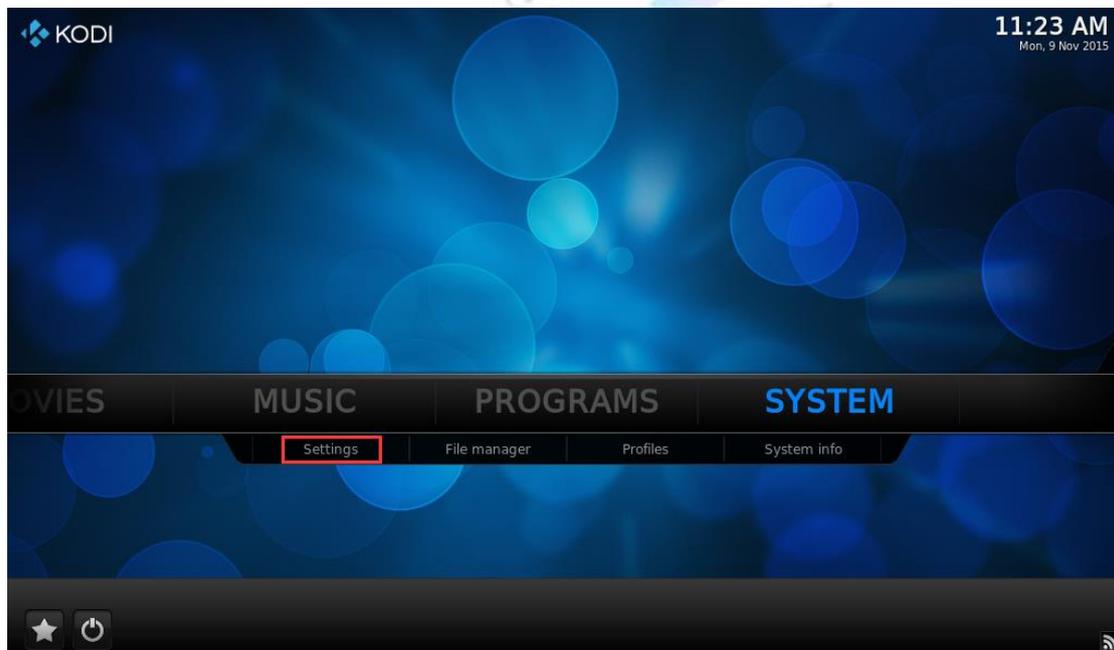




3.2 Set audio output and volume control

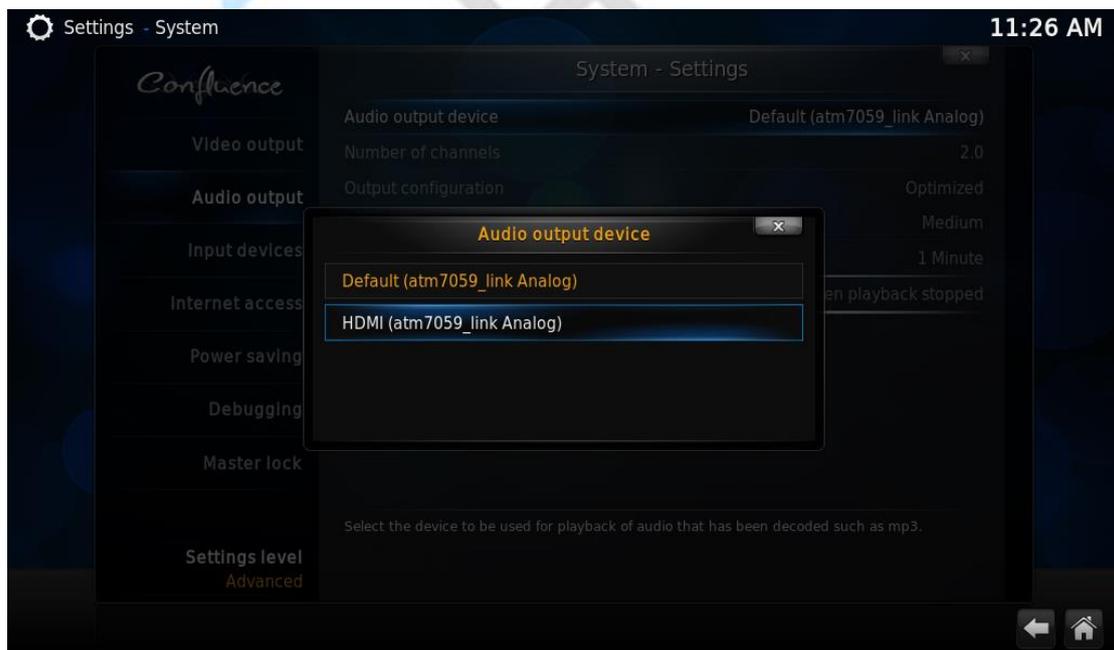
The default audio output is from the HDMI interface, so we can use a monitor with HDMI interface, but we can also set the audio output from the audio port.

- (1) Return to home page and select [SYSTEM] -> [Setting], select [System];





(2) Select **[Audio output]**->**[Audio output device]**, setting the audio output device to Default.

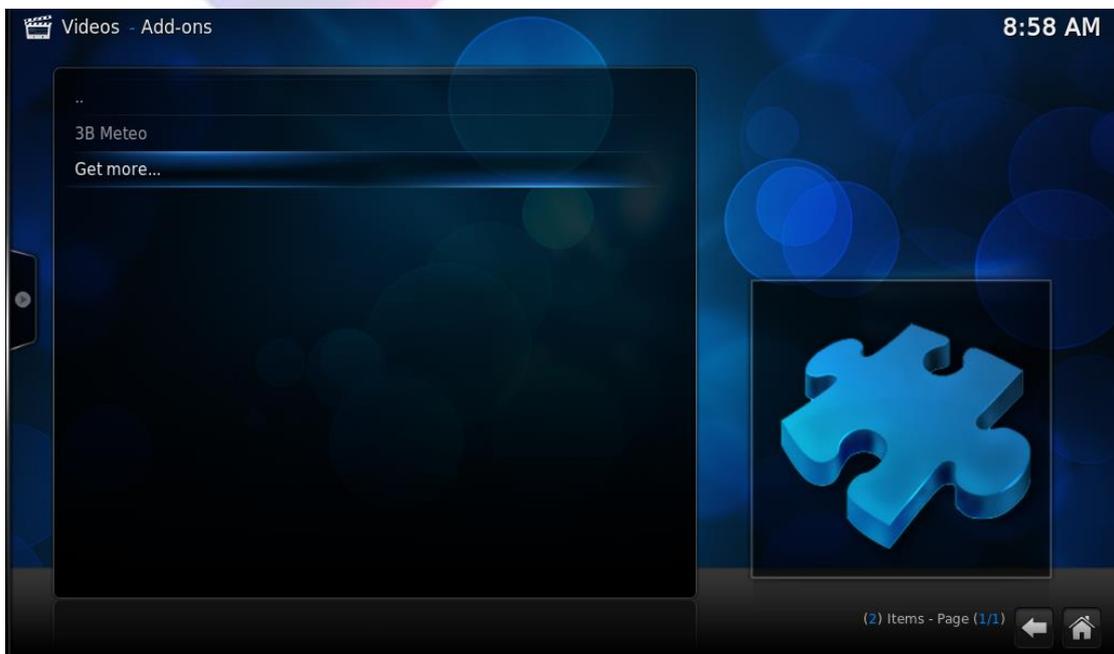
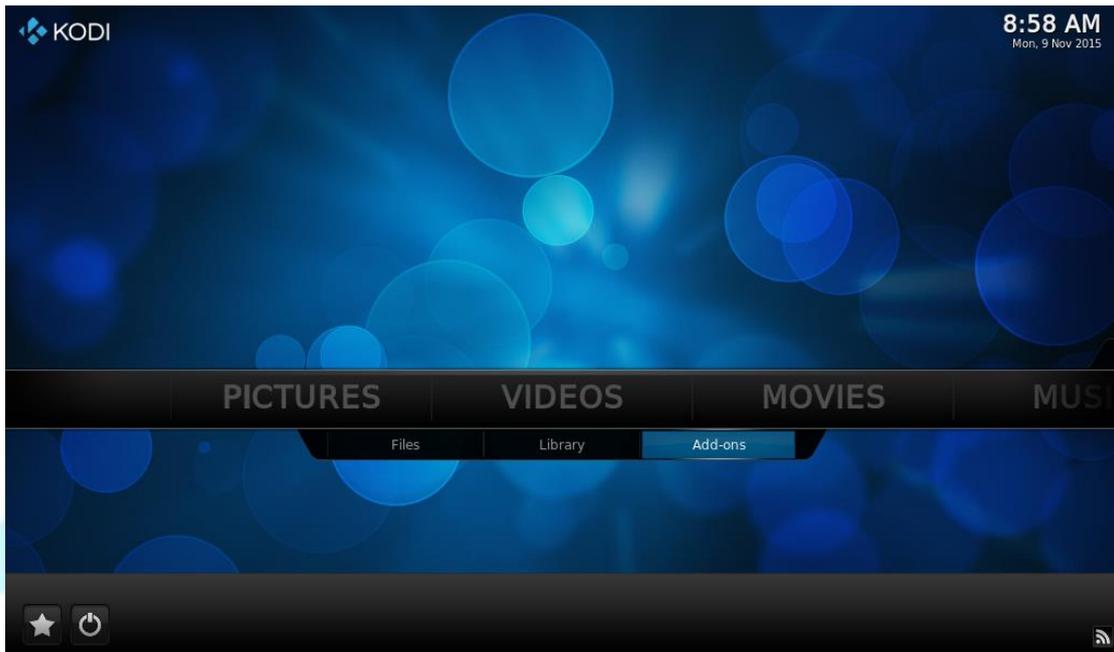


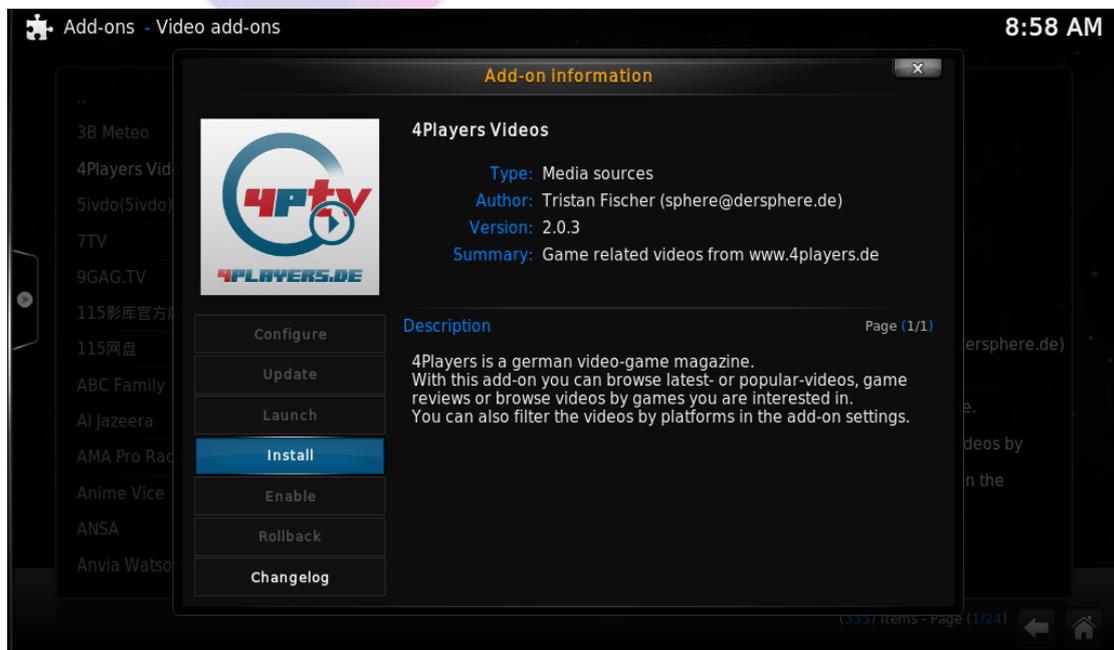
(3) We can use the volume control keys on the remote control to adjust the volume;



3.3 Play online video

(1) Select [VIDEOS] -> [Add-ons] -> [Get more ...], we can download the video add-ons we want, then return to [VIDEOS] -> [Add-ons] directory to see the add-ons we have installed; we can select the add-on to see the video content;





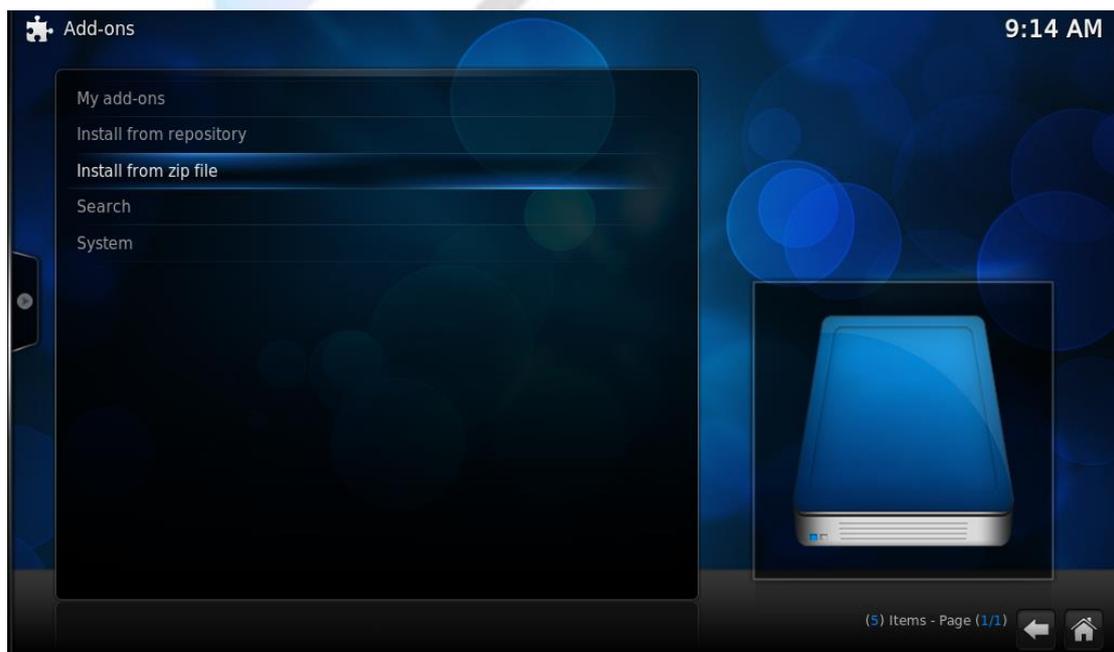
(2) Possible the add-ons in the system repository maybe not what you want, then we can download additional add-ons from the Internet. They are some compressed files, just use them in zip, not need to unzip;

-  plugin.video.youkuhd-1.1.3.zip
-  plugin.video.engineeringtv-2.0.0.zip
-  plugin.audio.hongkongradio-0.2.0.zip

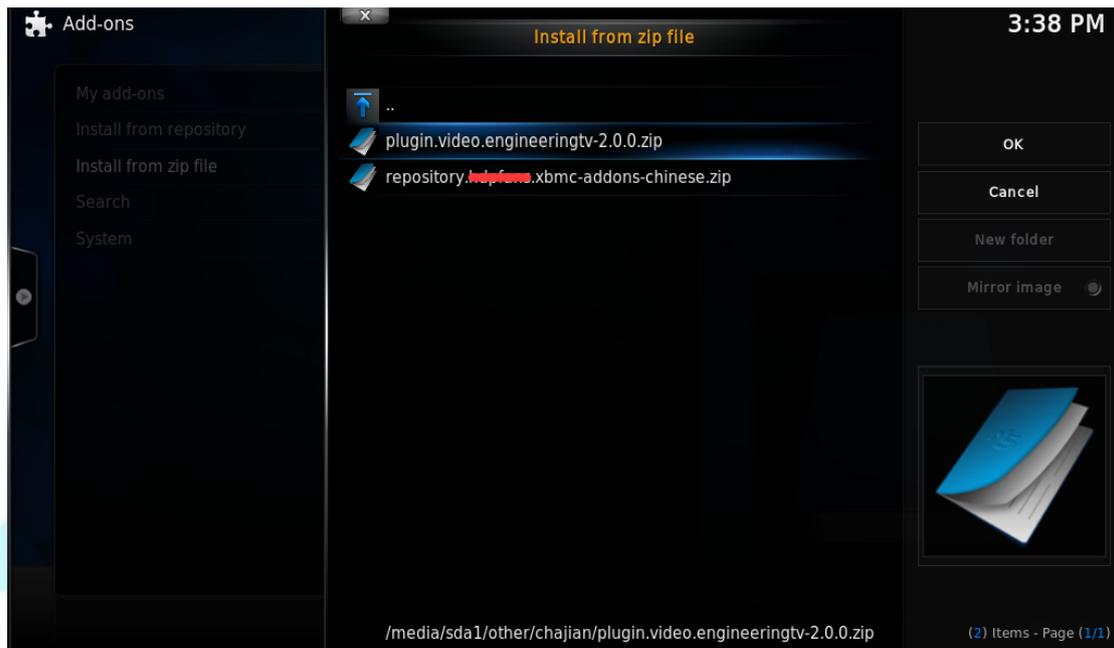
(3) Return to home page, select **[SYSTEM]** -> **[Settings]** -> **[Add-ons]**;



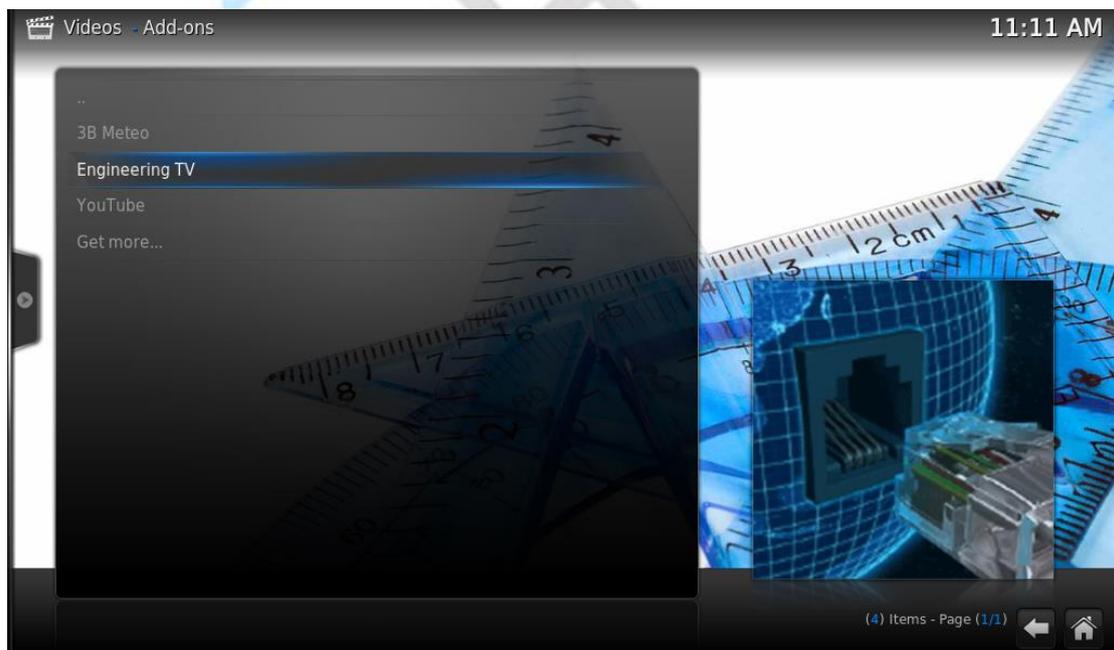
(4) Select **[Install from zip file]**;



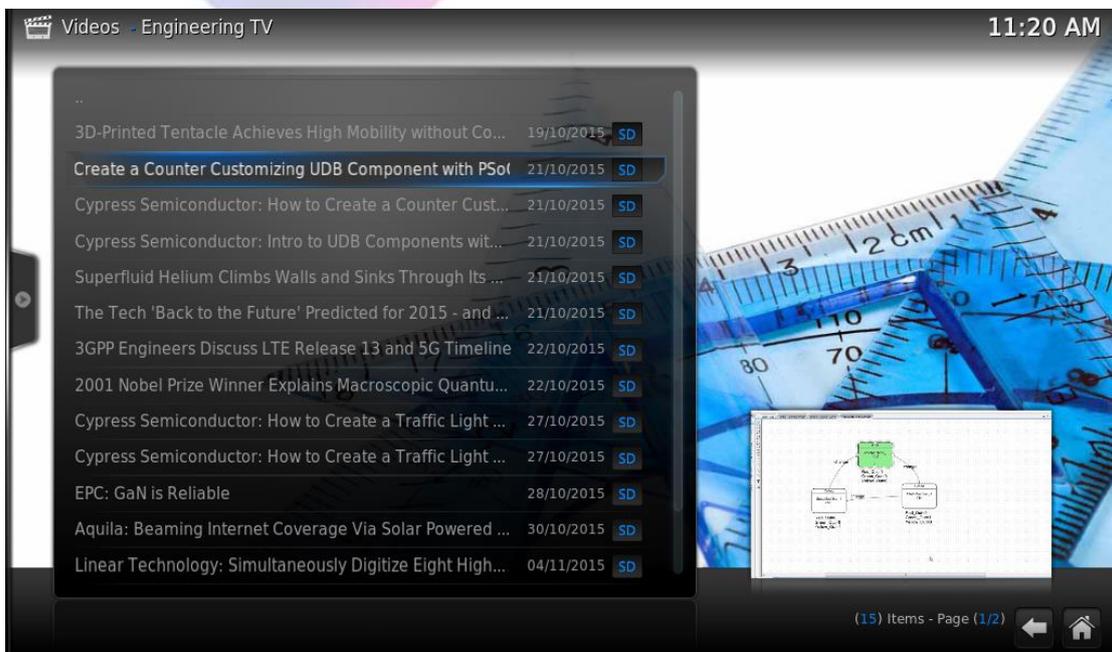
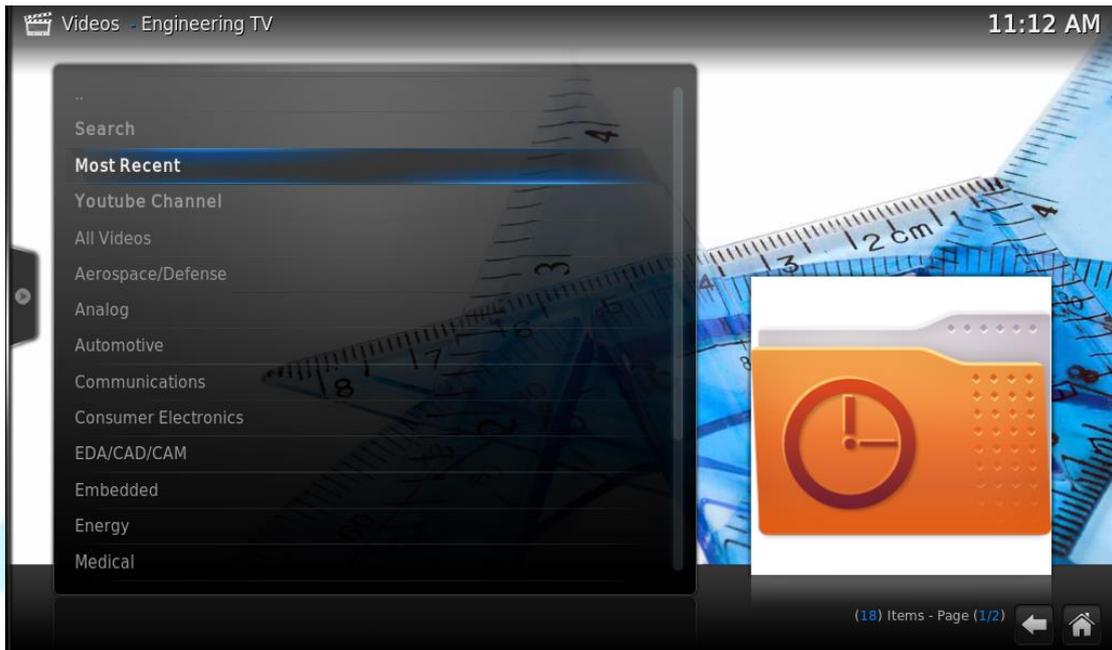
(5) Find the add-on file, click OK;



(6) After the add-on installation is complete, we return to **[VIDEOS]** -> **[Add-ons]** option to see the add-on we have just installed;



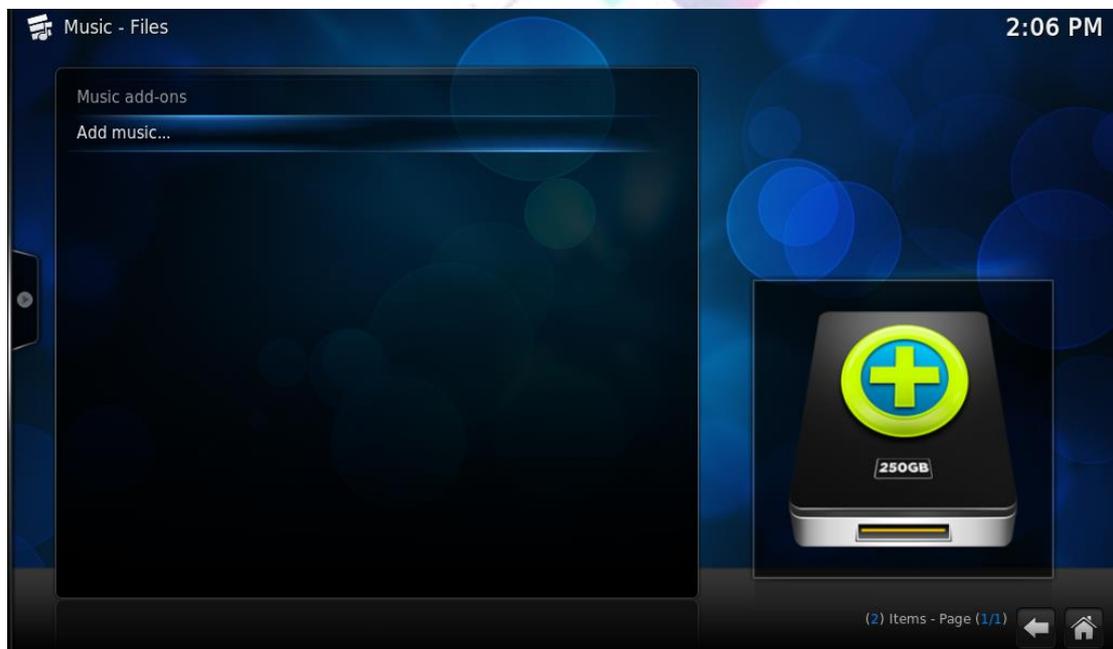
(7) Enter the add-on then we can see the content;





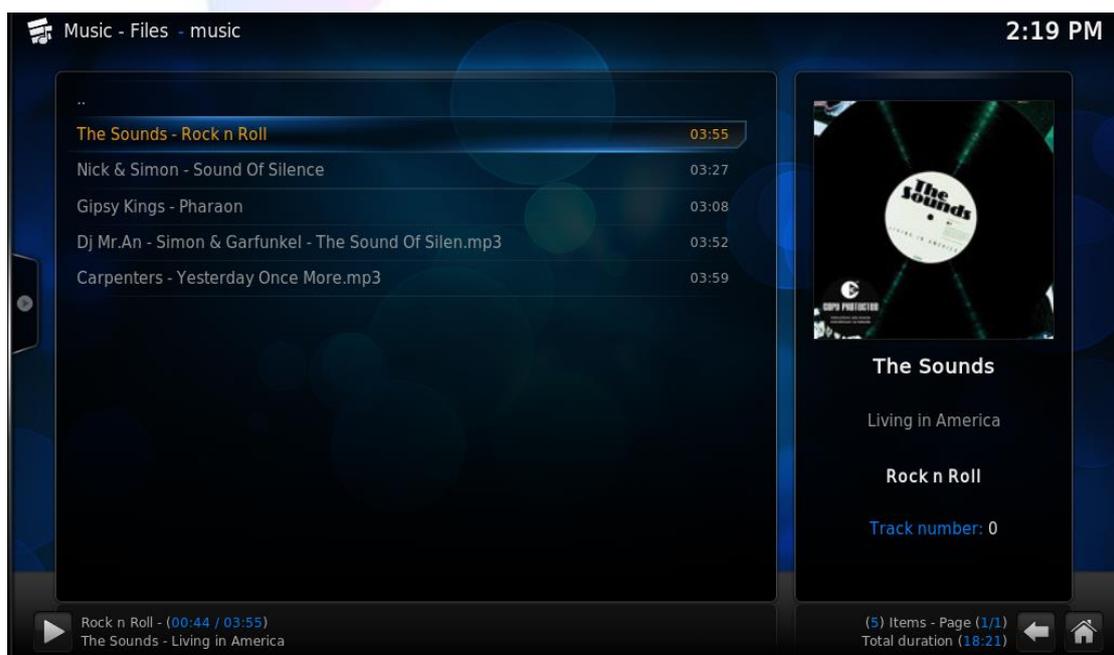
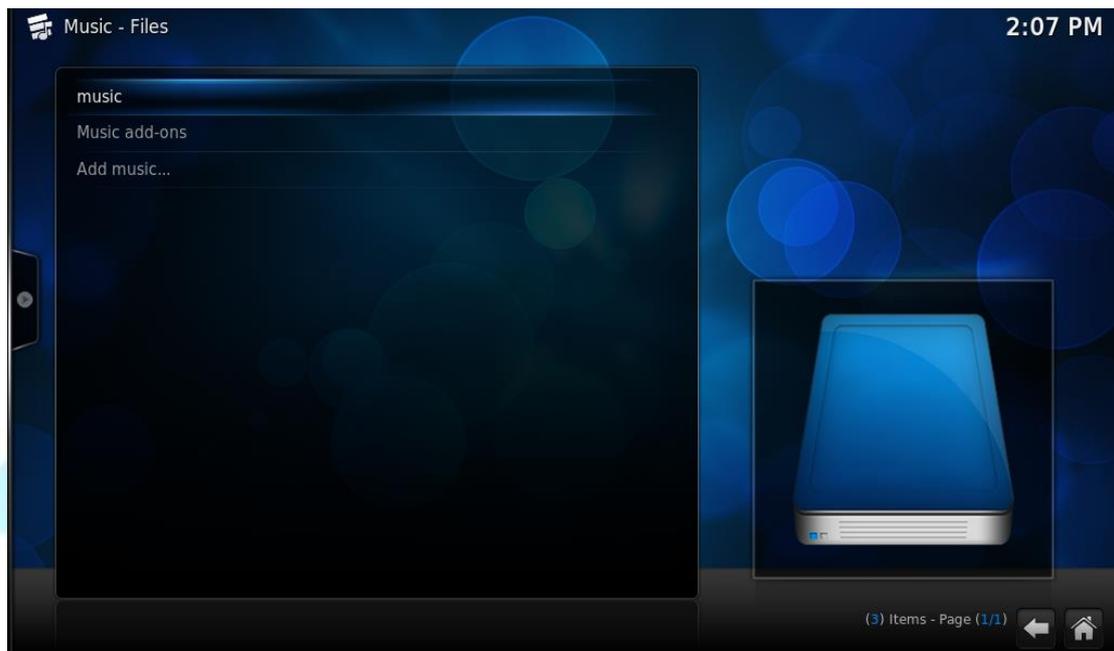
4 Play Audio

(1) Play audio also need to add a music source, the method is same as adding video source;

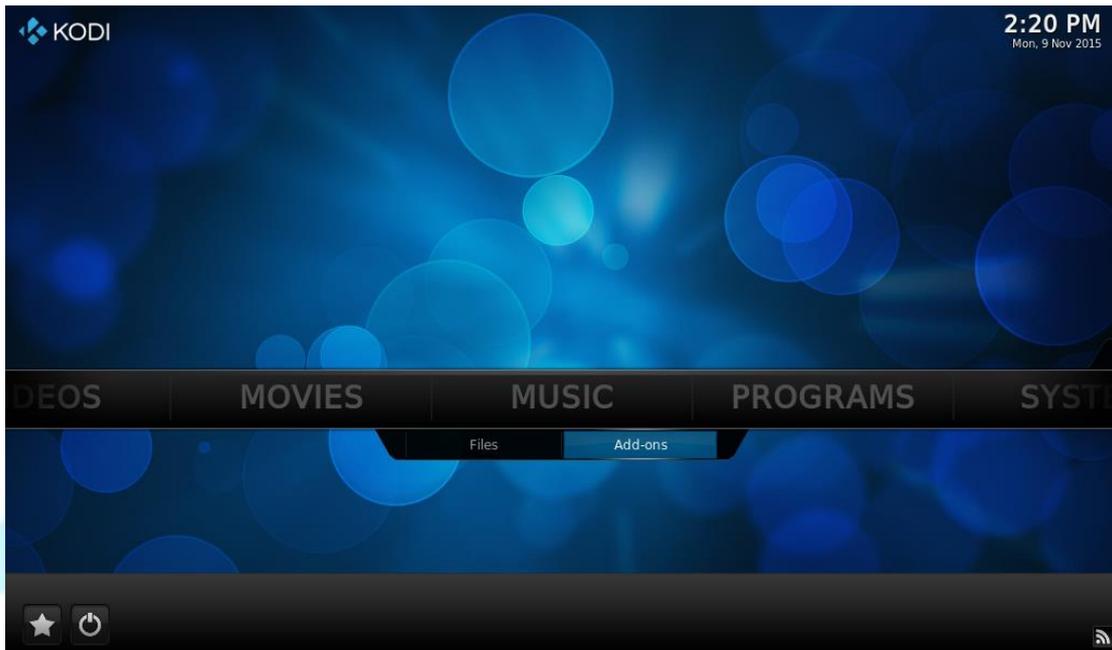


(2) After add music source, select **[Music]** -> **[file]** to see the music source we just

added. Go to the directory and play our favorite music!

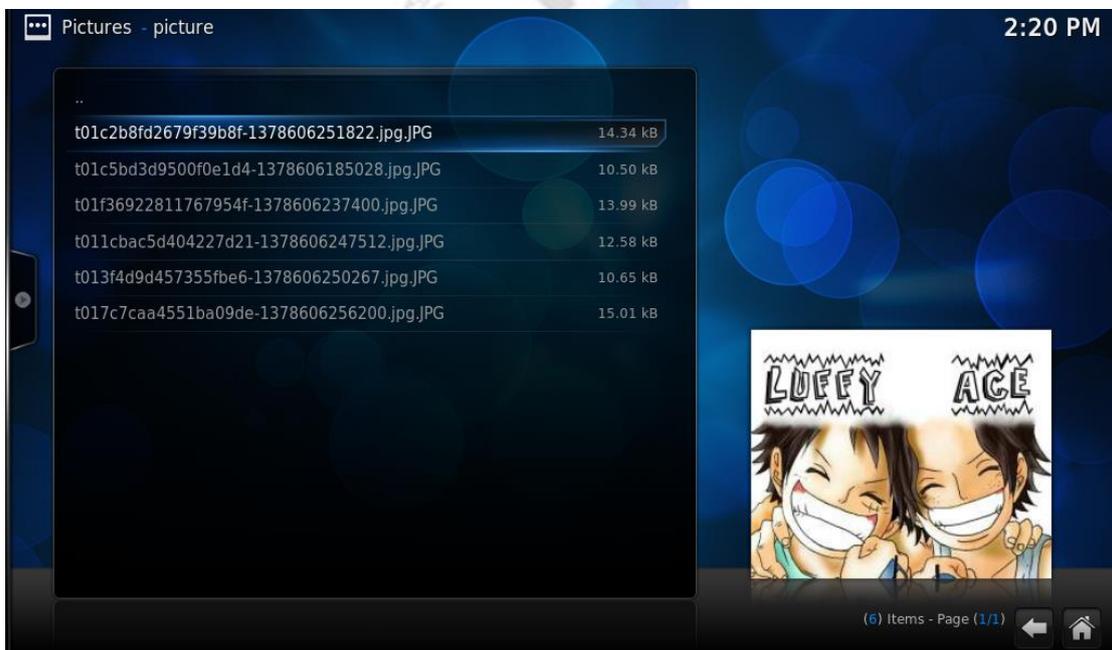


(3) If we want to listen to music on line, Similarly, we can choose [music]->[Add-ons] and add some music add-ons that we want, it was the same as adding video add-ons;



5 View photo

The way to play photo is same as playing music, so we do not say it again.



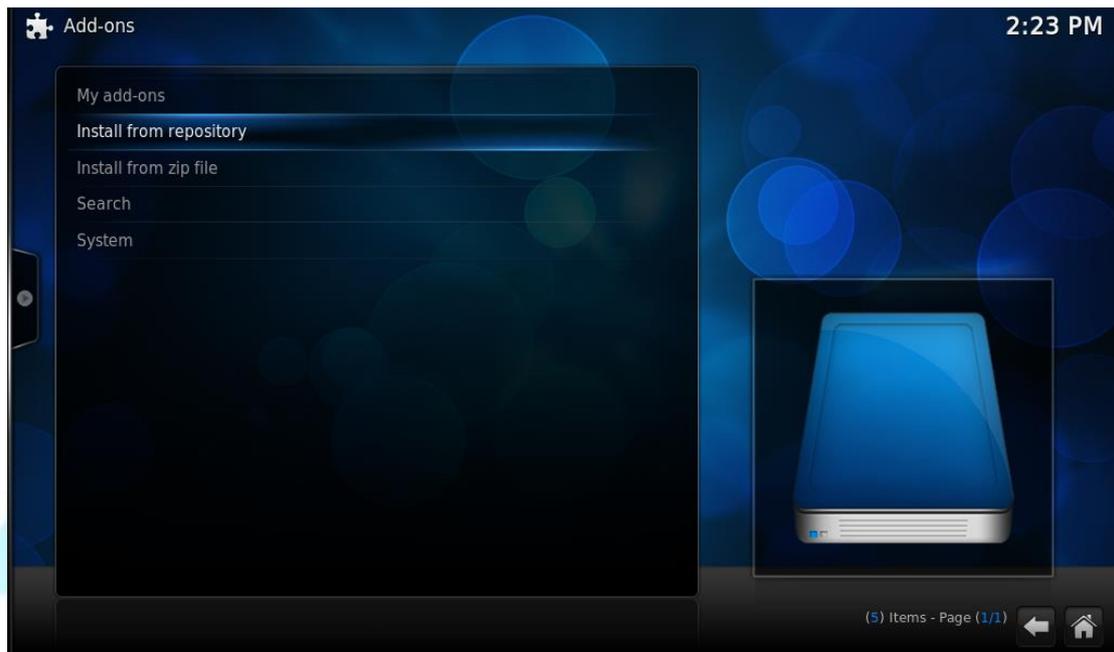
6 Install add-ons

One of the most attractive features of Kodi is to have a rich library of add-ons, you can achieve a lot of features, including online on-demand, online broadcast, captions match, and automatically get local video poster presentation. It can be said that to play Kodi is equivalent to play add-ons. Here we list the method of adding weather widget.

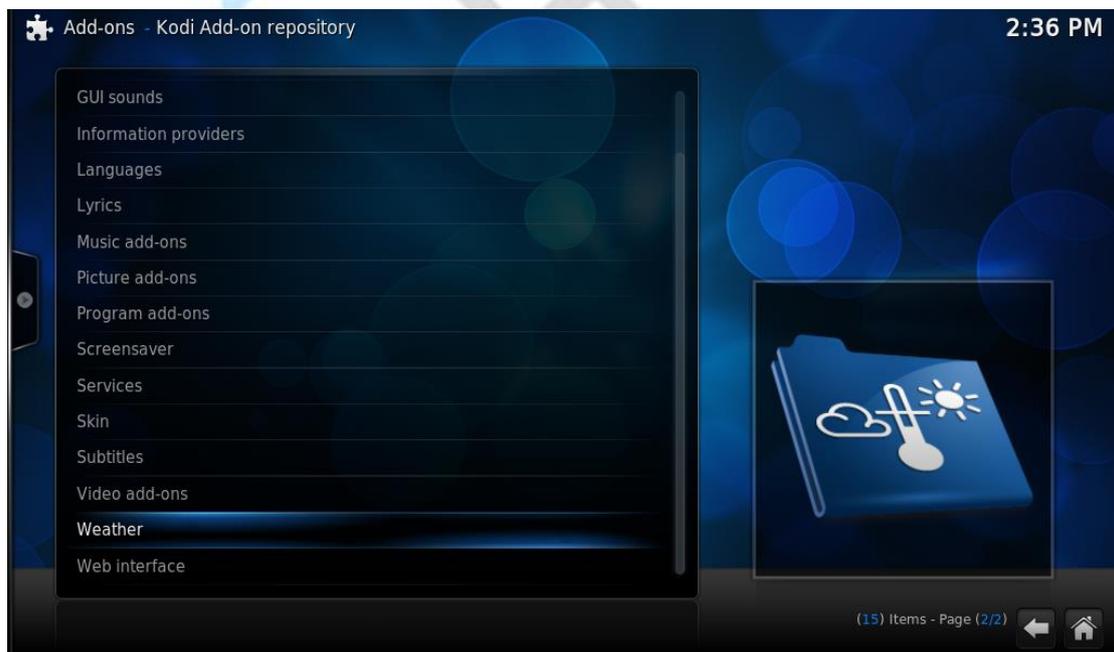
6.1 Install add-on

(1) In the home page, select **[system]** -> **[settings]**, select **[Add-ons]** -> **[Install from repository]**;

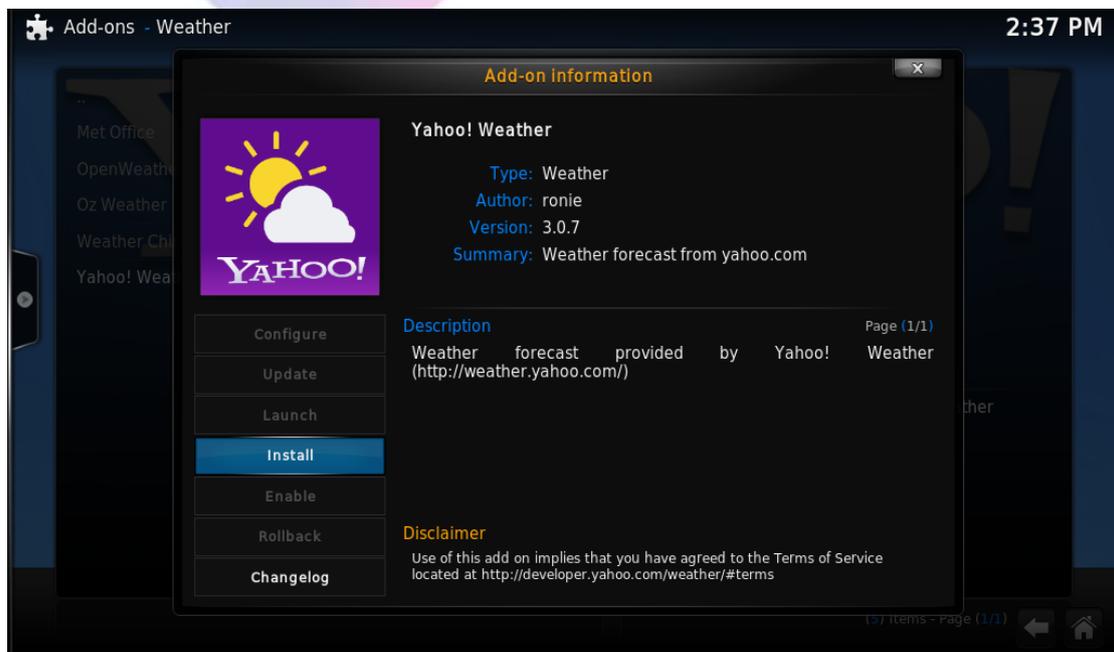




(2) In the Repository we can see a lot of good plug in the library, here we choose **[weather]**;



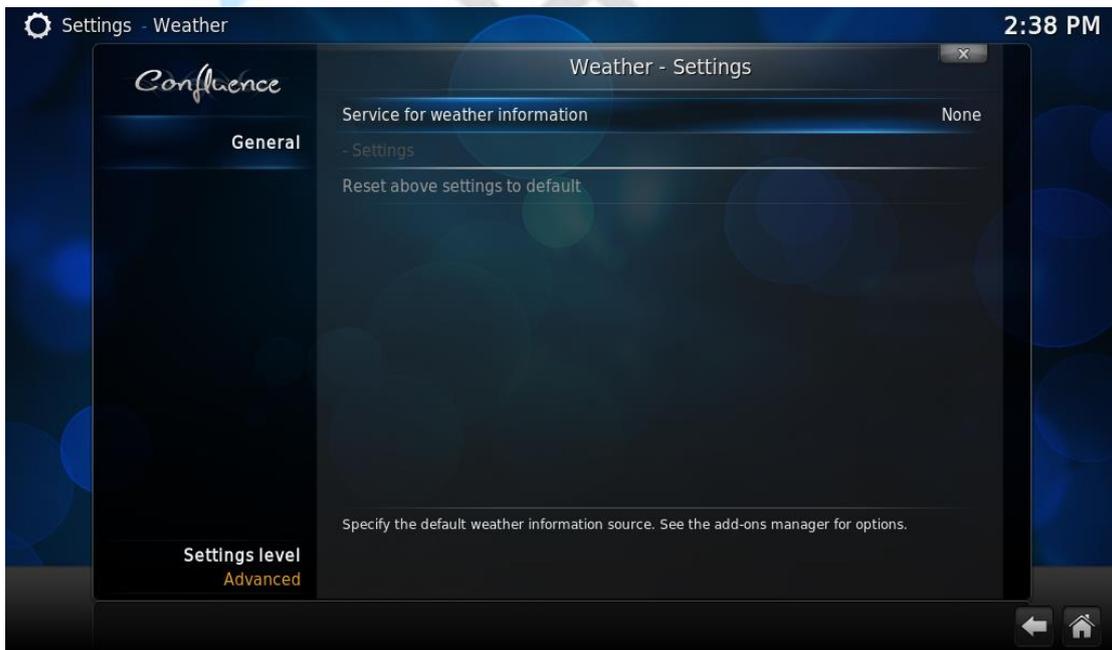
(3) Here, for example, Yahoo! Weather, download it;



(4) After download, return to [SYSTEM]->[Setting] and select [Weather];

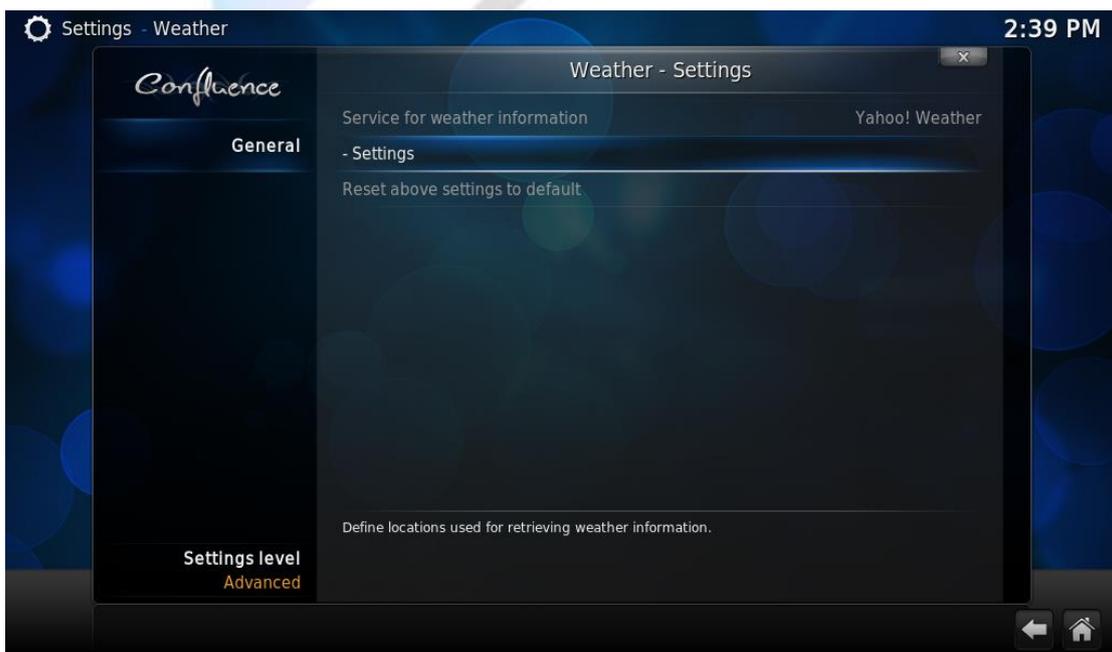


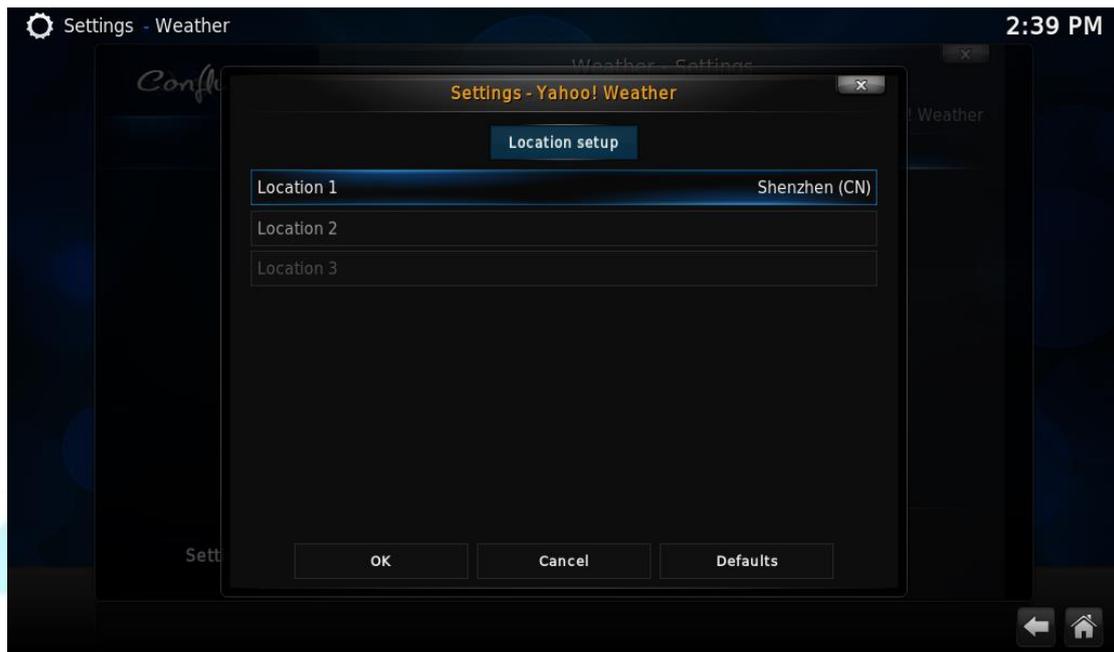
(5) Select [service for weather information] in the Weather-Settings, the weather add-on we just download can be seen here, select this add-on;



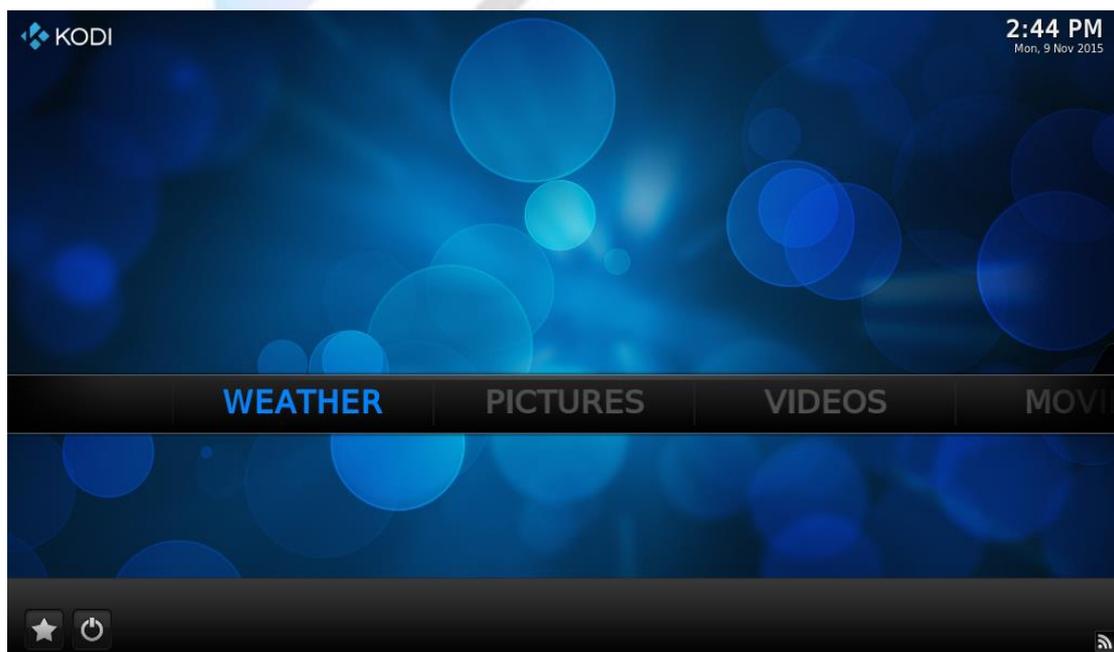


(6) In the Weather-Settings, select [settings], and set the location;

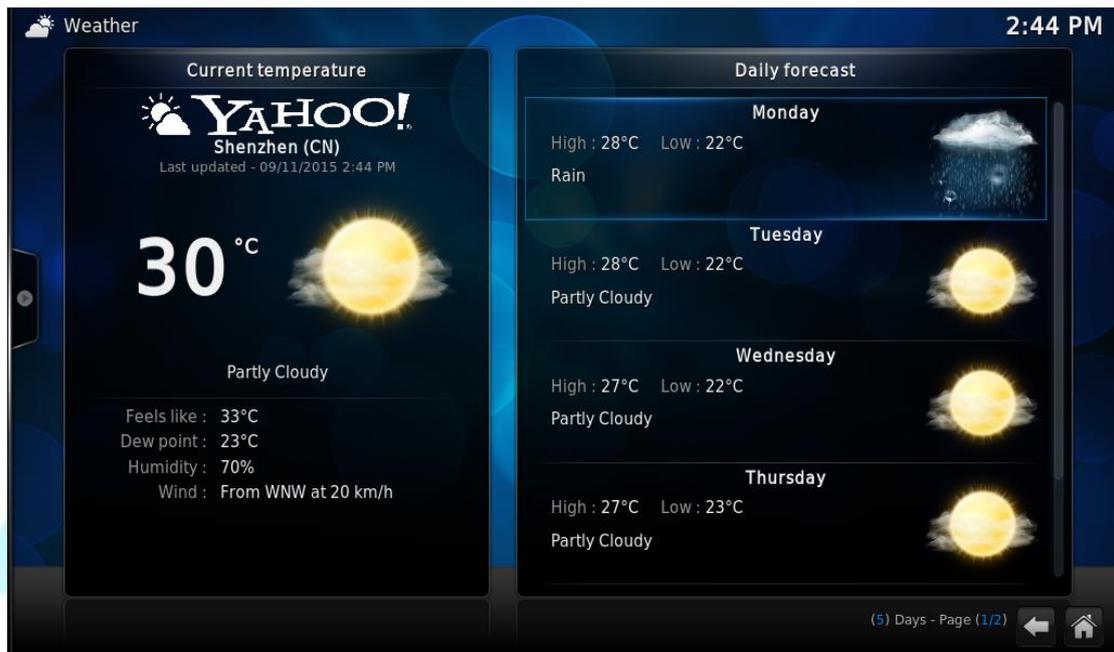




(7) Return to the home page, we can see the [weather] on the main menu;



(8) Into [weather] option, we can see our local weather information;



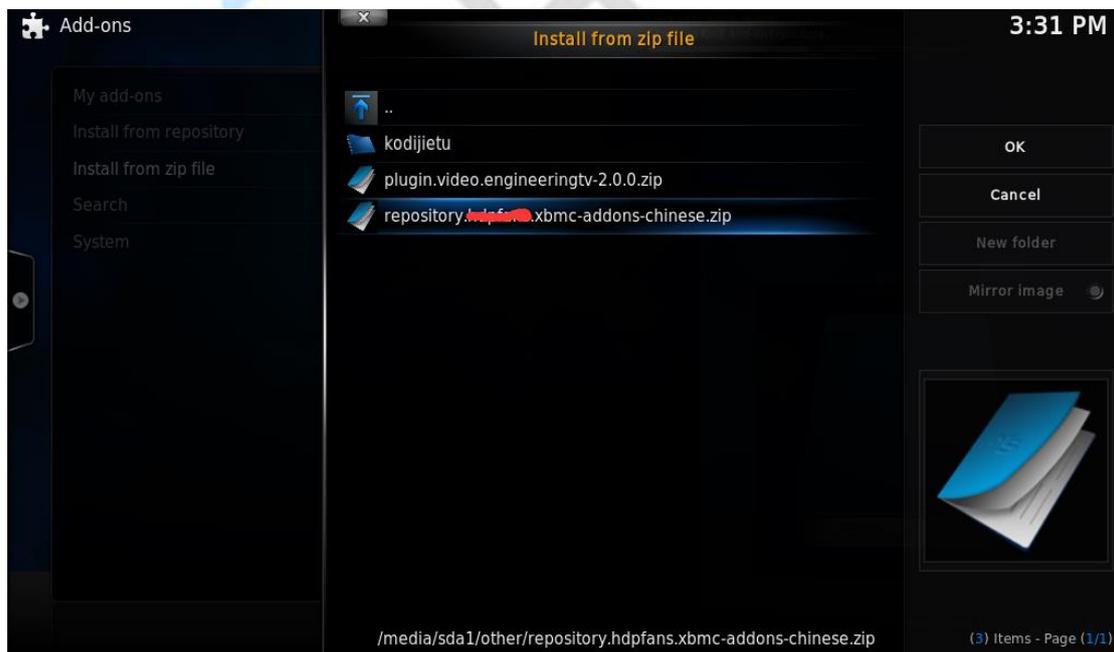
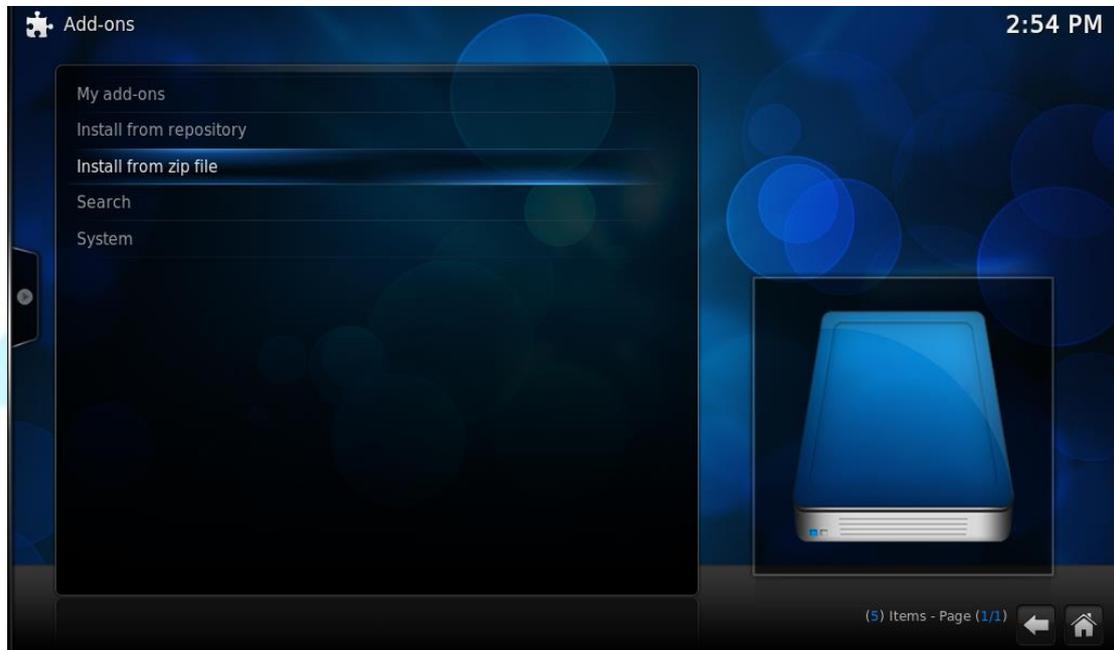
(9) If we want to add other add-ons, we can download from the wide variety of Kodi add-ons online, and install other add-ons just like to install video add-ons.

6.2 Install add-ons repository

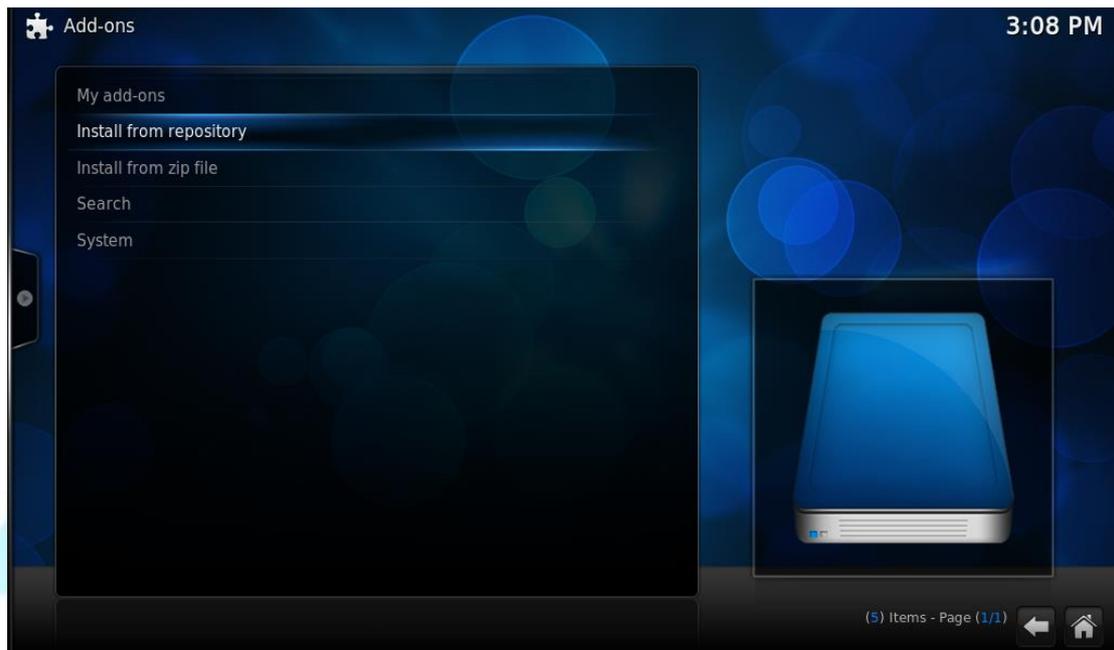
(1) If we think that the default add-ons repository is not enough, we can also download from other add-ons repository; In the home page, select [SYSTEM];



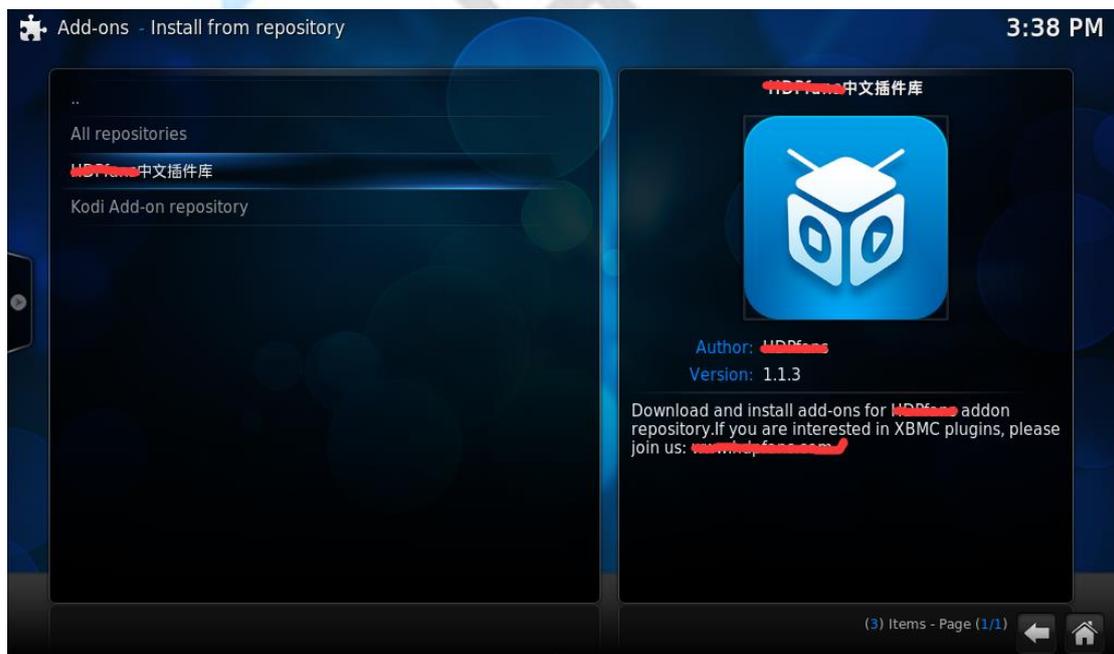
(2) Also select **[Install from zip file]** to find the compressed file which we download from internet, select the compressed file, the repository will be installed into our system;



(3) Next we choose **[Install from repository]**;



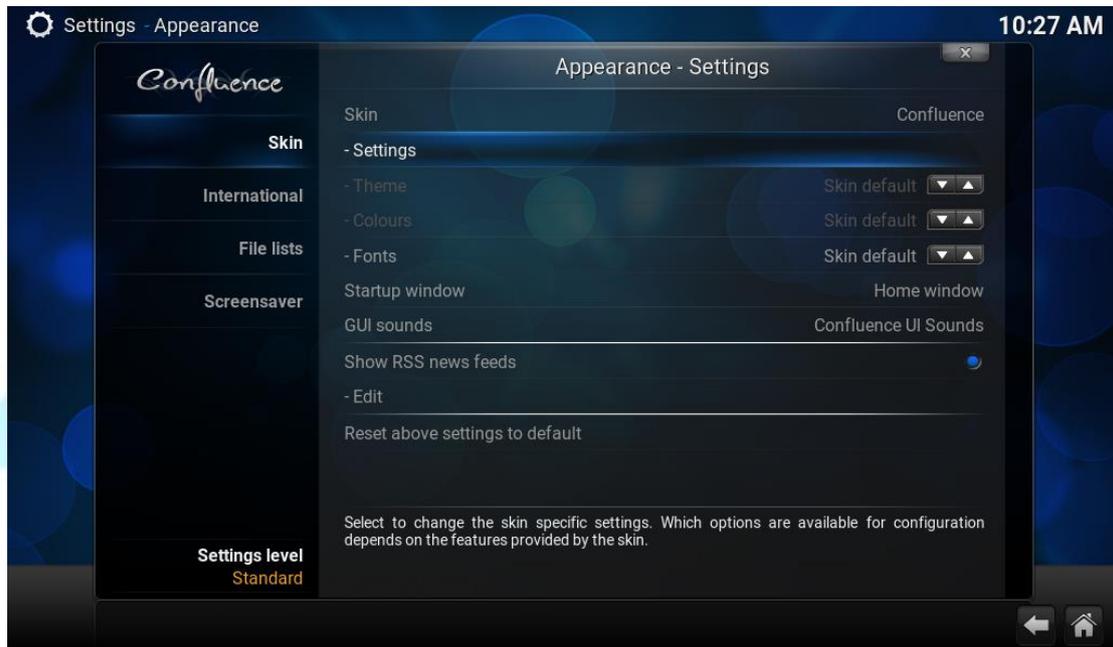
(4) See the Chinese add-ons repository we install in before, enter the library so that we can install whatever add-ons we want.



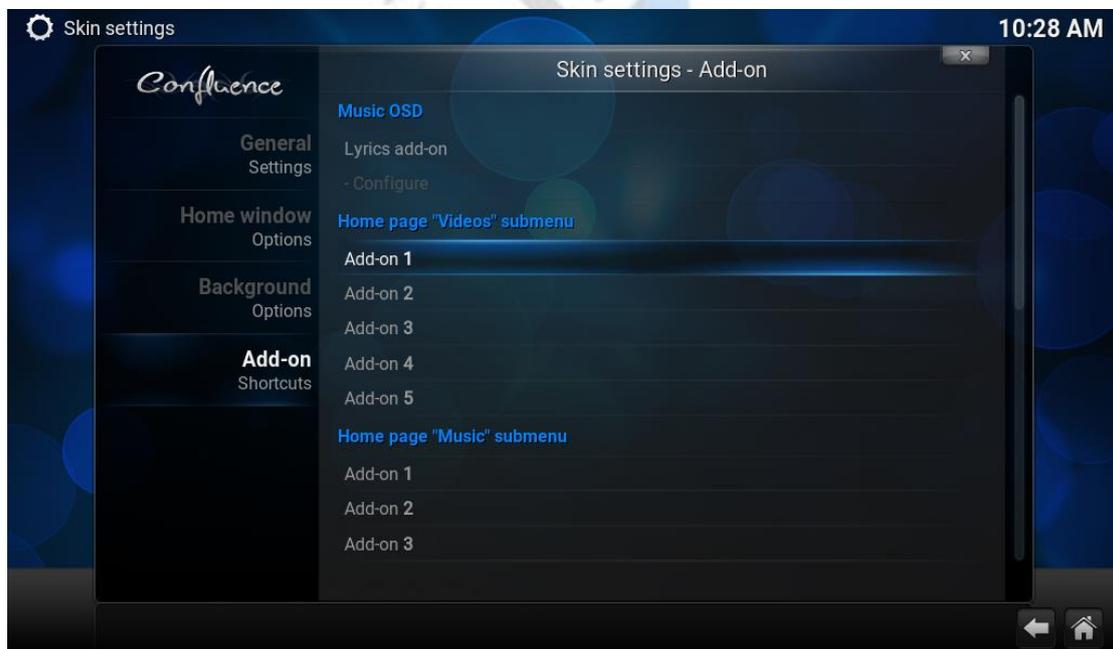
6.3 Add the add-ons to home page

We usually use a computer, always like to add the common software to the desktop shortcut, the same here we can also add the common add-ons to LeMedia home page.

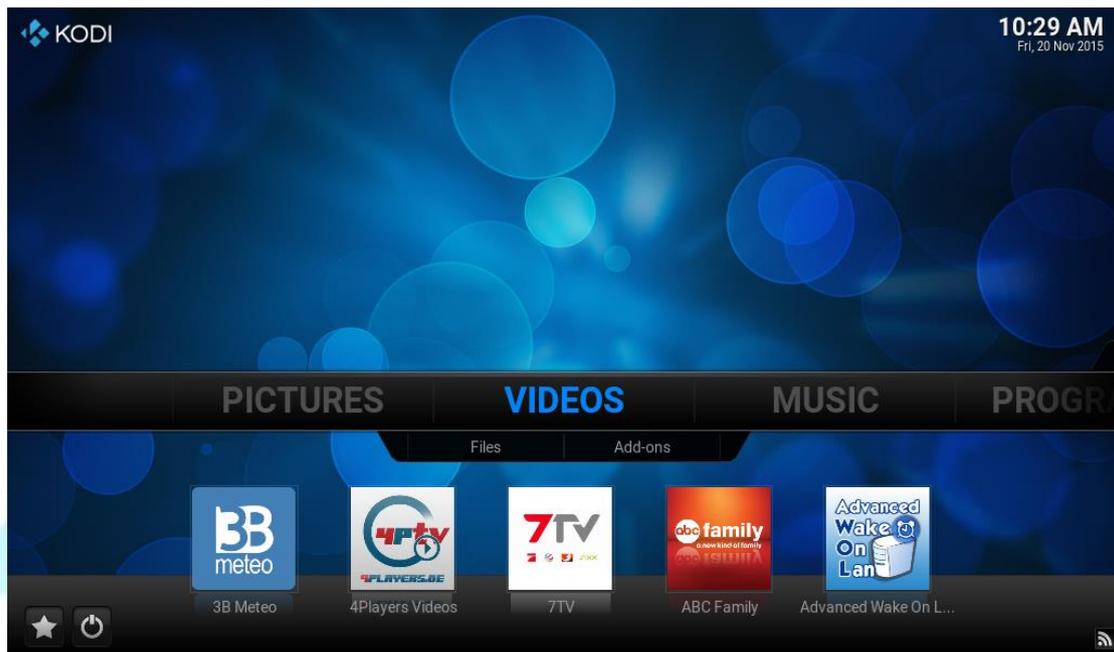
(1) Enter [SYSTEM]->[Settings]->[Appearance]->[Skin], select [Settings]option;



(2) Into [Add-on] option, add the add-ons to home page shortcuts;



(3) Return to home page, shortcut has been added to the page as we can see.

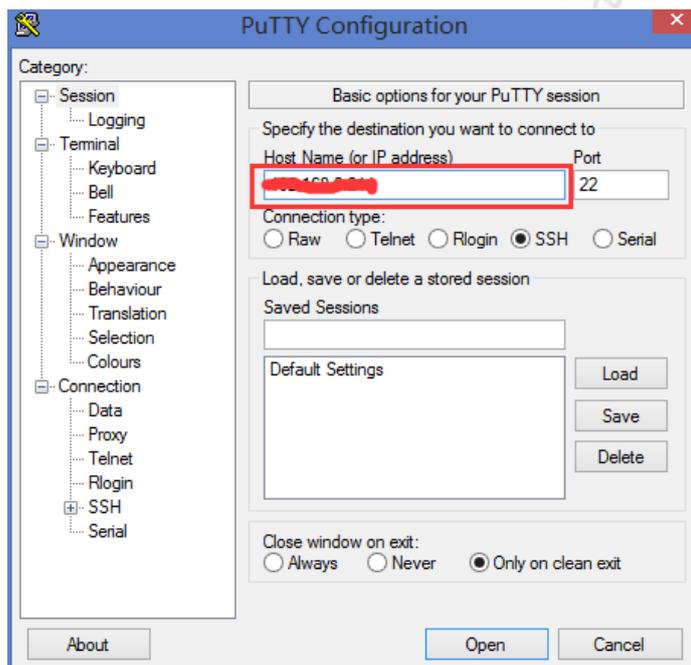


7 Access LeMaker Guitar through SSH or Samba

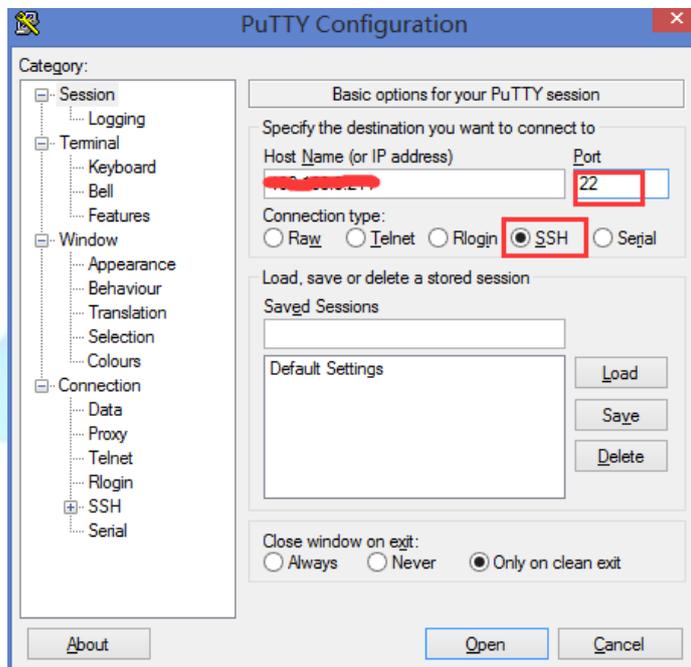
7.1 Access LeMaker Guitar through SSH

After connecting to the network, we can build the access to SBC through SSH protocol on PC. Here we use Putty software to achieve.

(1) Open the putty software, input the IP address of the LeMedia that we get in chapter 2;

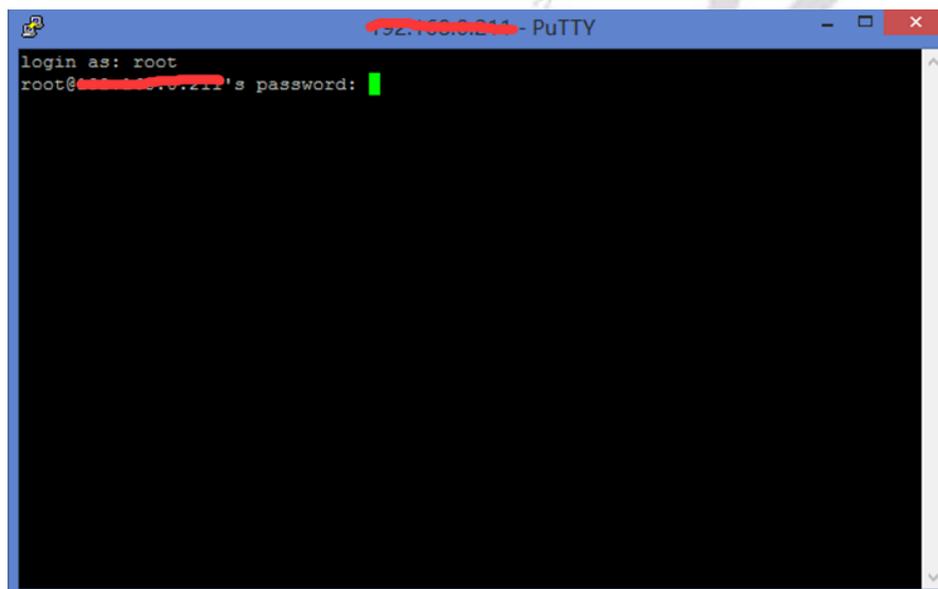


(2) “Connection type”: select SSH, “Port”: enter 22, then click [Open], you will enter the shell interface;

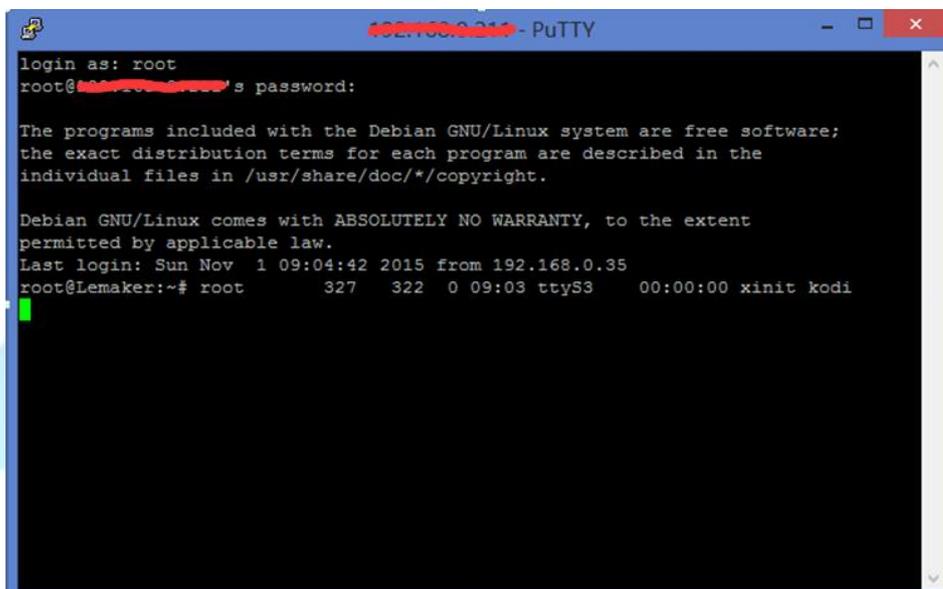


(3) User name: root, Password: lemaker

Due to the authority problem, log in with ordinary user group may not have some permissions, log in with root user group can avoid this problem;



(4) After logging in, we can access LeMaker Guitar via SSH on the PC, and check LeMedia's background information.



```
192.168.0.216 - PuTTY
login as: root
root@192.168.0.216's password:
The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Sun Nov  1 09:04:42 2015 from 192.168.0.35
root@Lemaker:~# root      327   322   0 09:03 ttyS3      00:00:00 xinit kodi
```

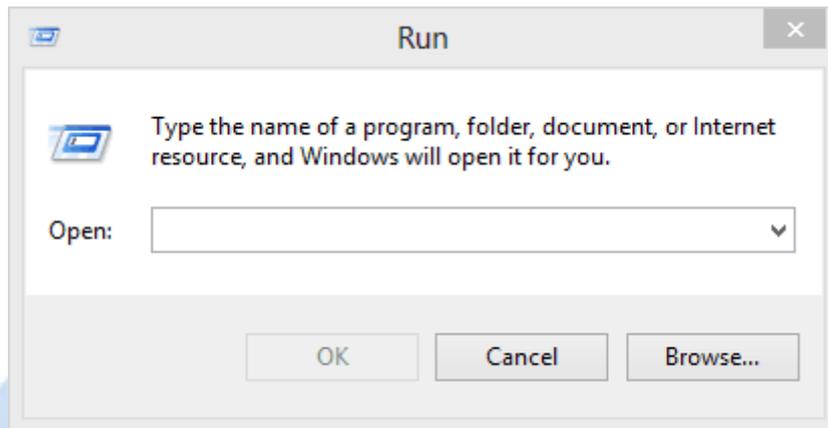
7.2 Access LeMaker Guitar through Samba

Samba is a free software to implement the SMB protocol in Linux and UNIX system, which is composed of the server and the client program. SMB (Messages Block Server) is a kind of communication protocol for sharing files and printers on a local area network. It provides the shared services between different computers.

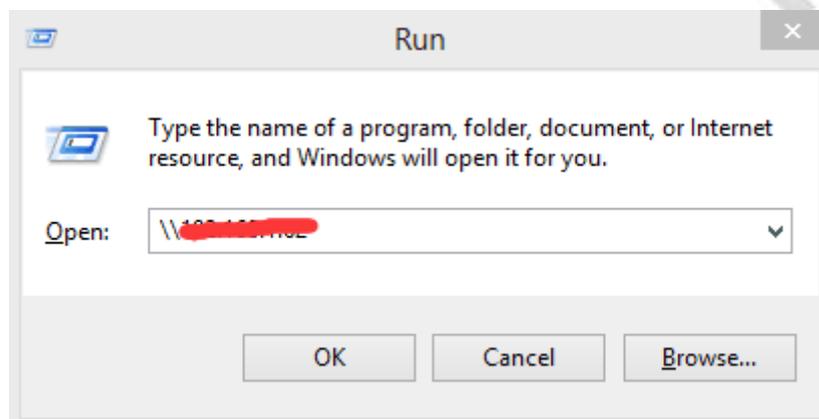
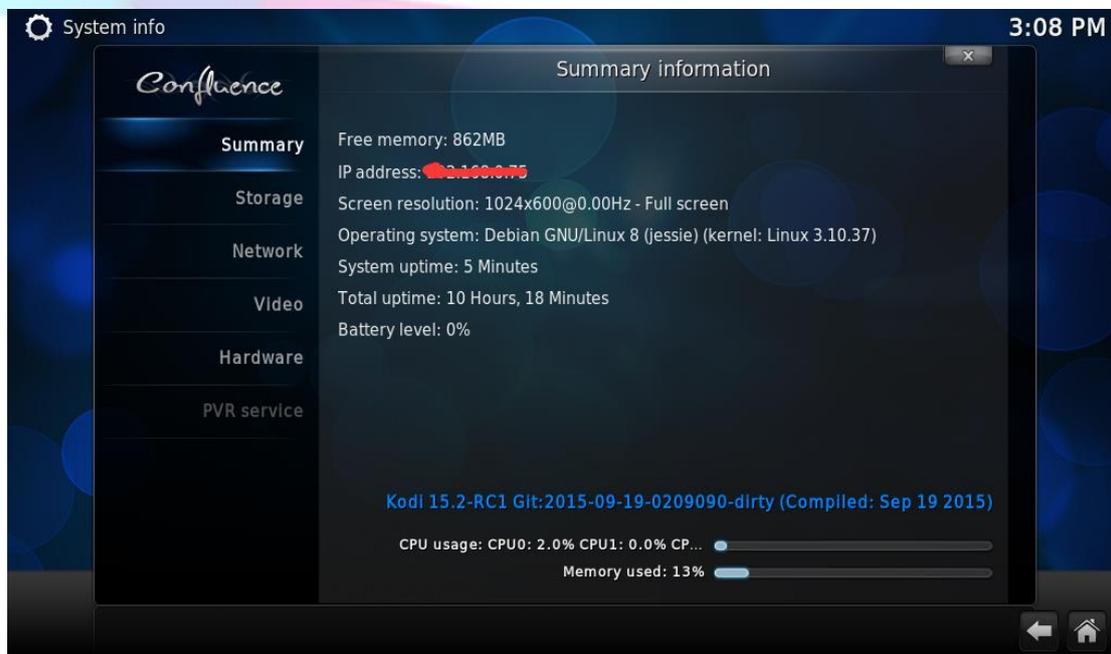
Here LeMaker Guitar acts as the server side, we can access the shared file on LeMaker Guitar through the PC, and you can also move the file from PC to LeMaker Guitar.

7.2.1 Open shared directory

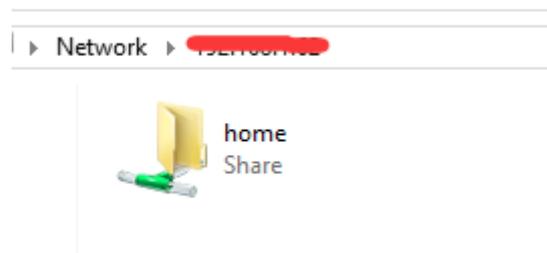
(1) Take Windows 8 as an example, we press the Windows+R button on the PC to start the running bar;



(2) Enter the IP address we saw in the LeMedia system information;



(3) After clicking on OK we see the shared directory;

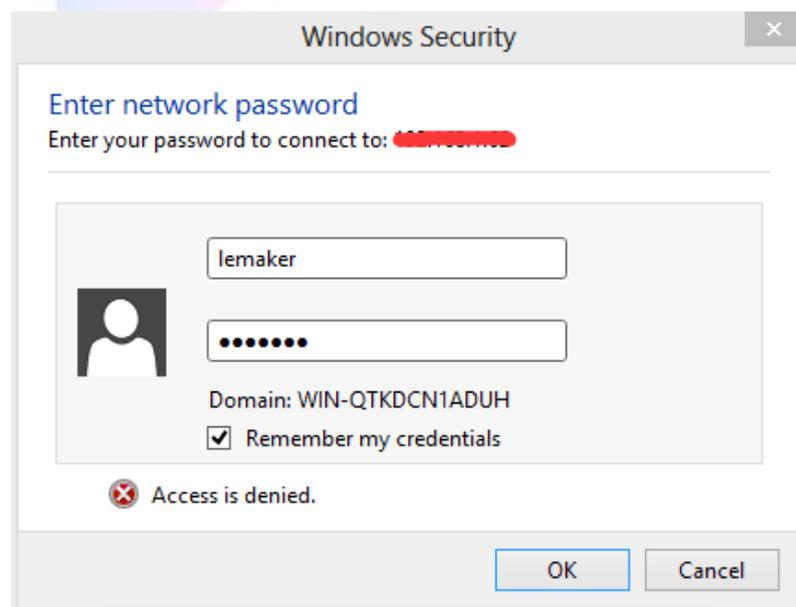


(4) We need to put our user name and password to enter the shared directory:

user name: lemaker

password: lemaker

After entering the shared directory, we can open the file in the shared directory on LeMedia, or add a new file to the shared directory.



7.2.2 Add shared directory

(1) If we want to customize the shared directory of LeMedia, we can use SSH to access the LeMedia background and add a shared directory; We use putty through SSH to open the file `/etc/samba/smb.conf`;

```
login as: root
root@192.168.1.28's password:

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Thu Nov 19 08:56:27 2015 from jerry-pc
root@lemaker-pc:~# root      436   431   0 08:55 ttyS3    00:00:00 xinit kodi

[1]+  Done                  /root/kodi_sh
root@lemaker-pc:~# nano /etc/samba/smb.conf
```

(2) After open the file, we can see the configuration information for our shared directory;

```
GNU nano 2.2.6      File: /etc/samba/smb.conf

#
# If you don't want to use auto-mounting/unmounting make sure the CD
#   is mounted on /cdrom
#
; preexec = /bin/mount /cdrom
; postexec = /bin/umount /cdrom

#####Peter Dir#####
[home]
comment = home directory
path = /home/
browseable = yes
writeable = yes
guest ok = no
valid users = lemaker
```

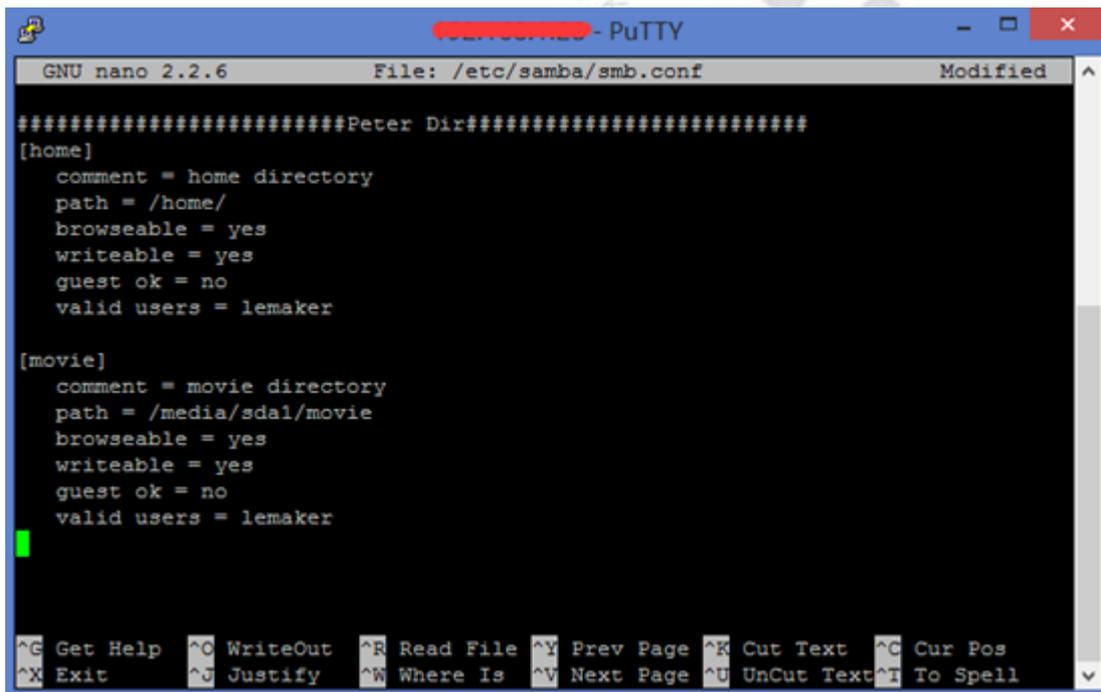
[home] # The shared directory name we see
comment = **home directory** # Information description of shared directory

```
path = /home/                # Directory path to share
browseable = yes
writeable = yes
guest ok = no
valid users = lemaker
```

(3) If we want to add our own shared directory, we can refer to the original configuration information to modify and add a new configuration below the original configuration information, such as we want to share the /media/sda1/movie directory, then we can add the following configuration:

```
[movie]                        # The shared directory name we see
comment = movie directory     # Information description of shared directory
path = /media/sda1/movie      # Directory path to share
browseable = yes
writeable = yes
guest ok = no
valid users = lemaker
```

Click Ctrl+O to save, then click Ctrl+X to exit

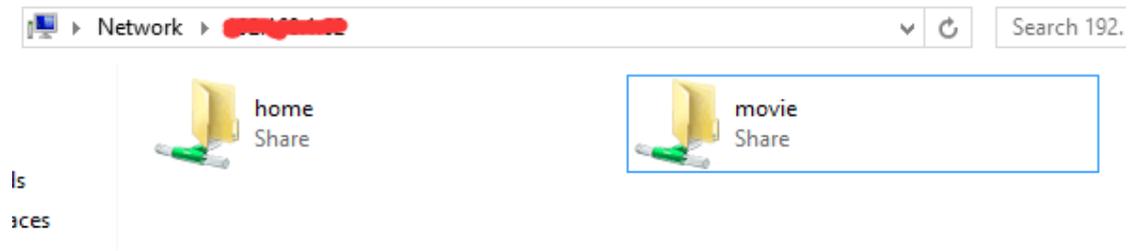


```
root@ubuntu: ~ - PuTTY
GNU nano 2.2.6 File: /etc/samba/smb.conf Modified
#####Peter Dir#####
[home]
comment = home directory
path = /home/
browseable = yes
writeable = yes
guest ok = no
valid users = lemaker

[movie]
comment = movie directory
path = /media/sda1/movie
browseable = yes
writeable = yes
guest ok = no
valid users = lemaker

^G Get Help ^O WriteOut ^R Read File ^Y Prev Page ^K Cut Text ^C Cur Pos
^X Exit ^J Justify ^W Where Is ^V Next Page ^U UnCut Text ^I To Spell
```

(4) Then we can find out the movie directory on the PC, and we can upload or download our files from here.



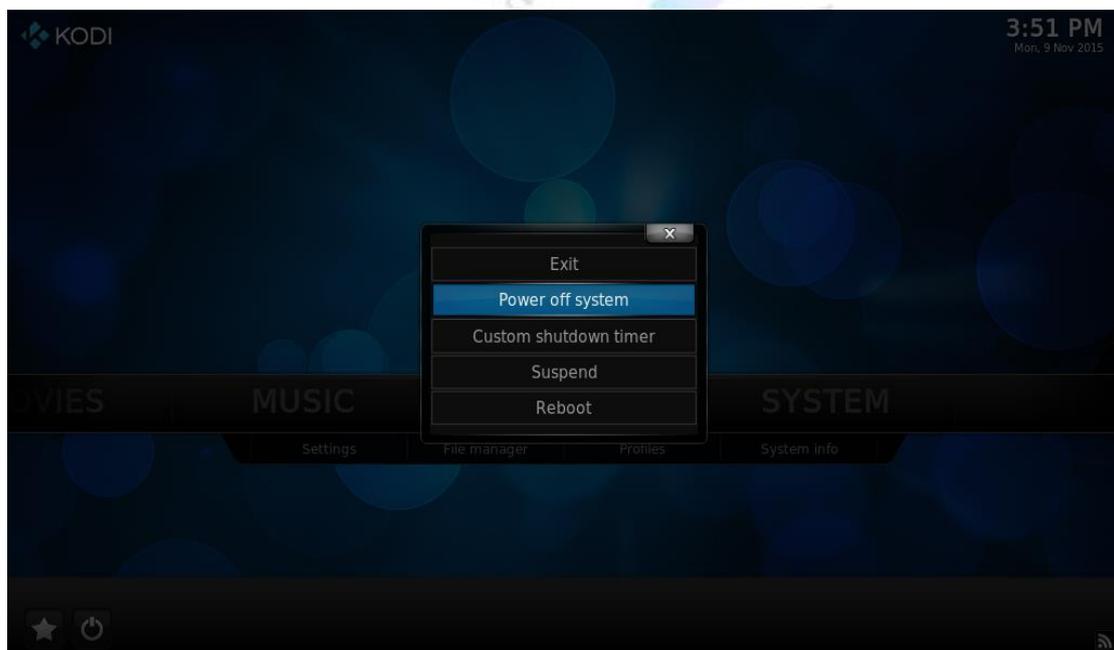
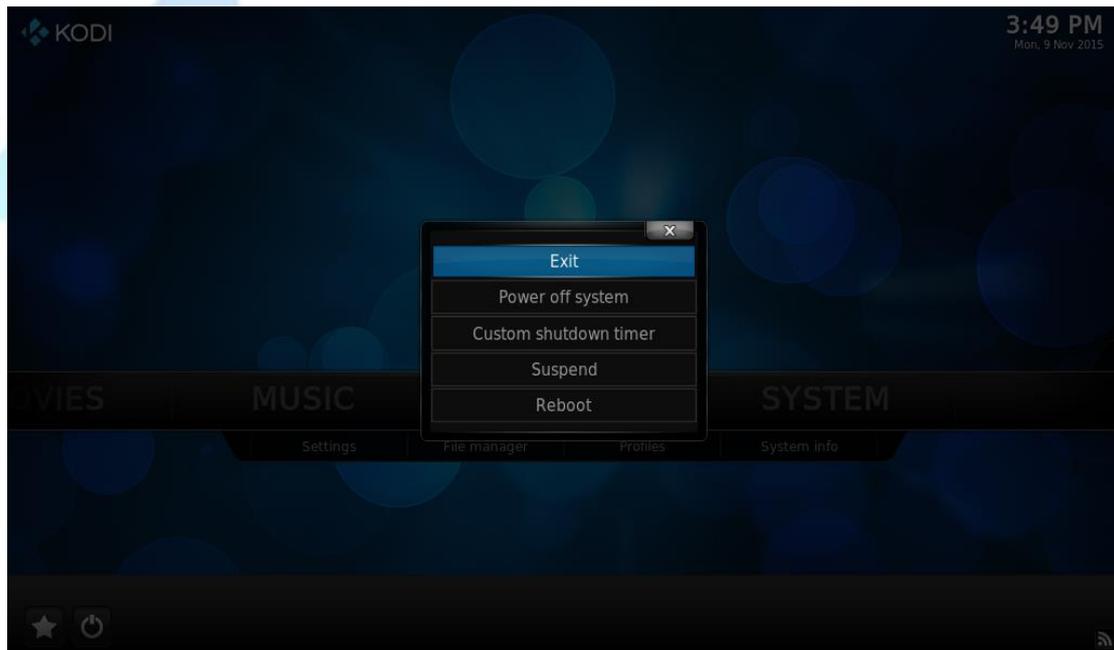
8 Restart and shutdown

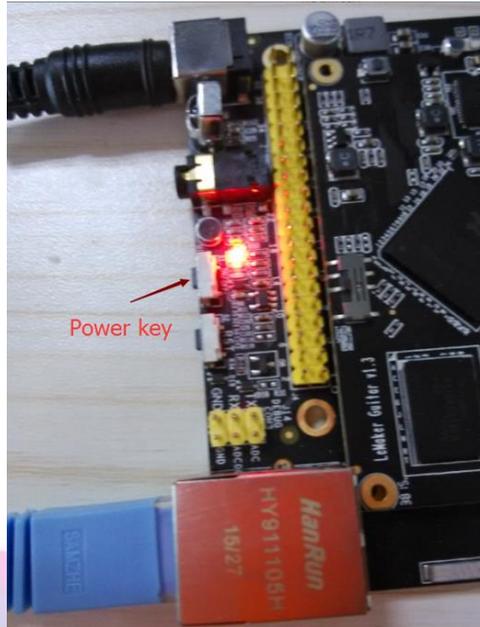
On the remote control, press the power key, and select the corresponding options to achieve the corresponding settings.



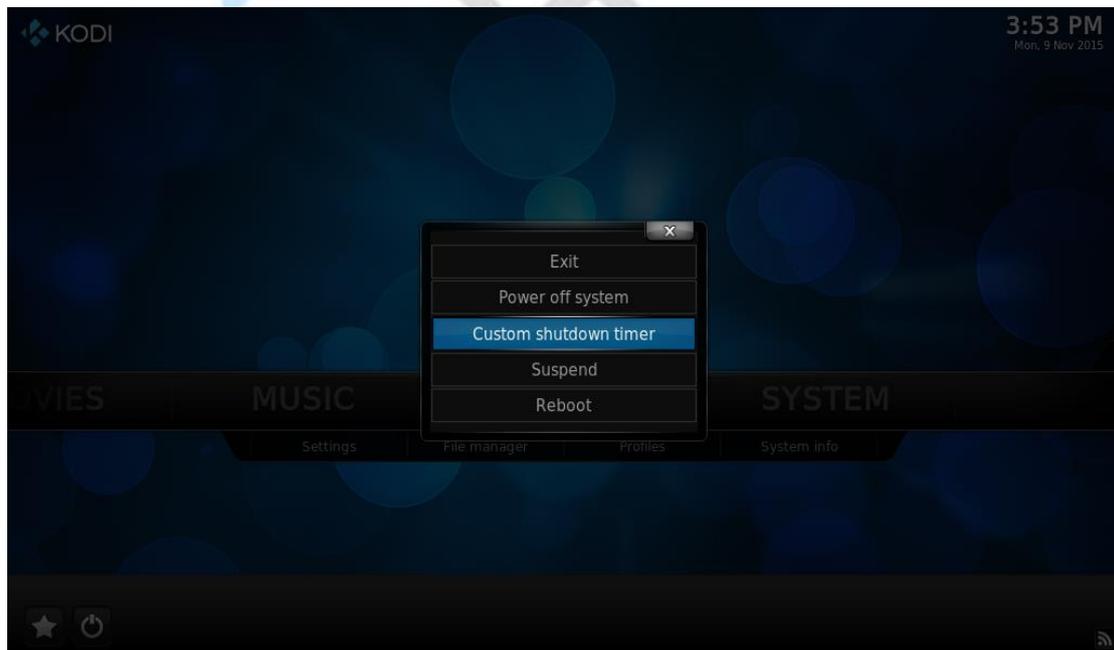
(1) Select **[Exit]** the software will quit , LeMedia is built by Kodi on Debian system,

which will only run Kodi's graphical interface software, thus after the software exits, the system will shut down. LeMedia system has the **[exit]** option and **[Power off system]** option doing the same function. We can also choose the power key on the SBC to shut down: press the power button for 5 seconds and release. Likewise, we can press the power button for 5 seconds then release the button to start system;

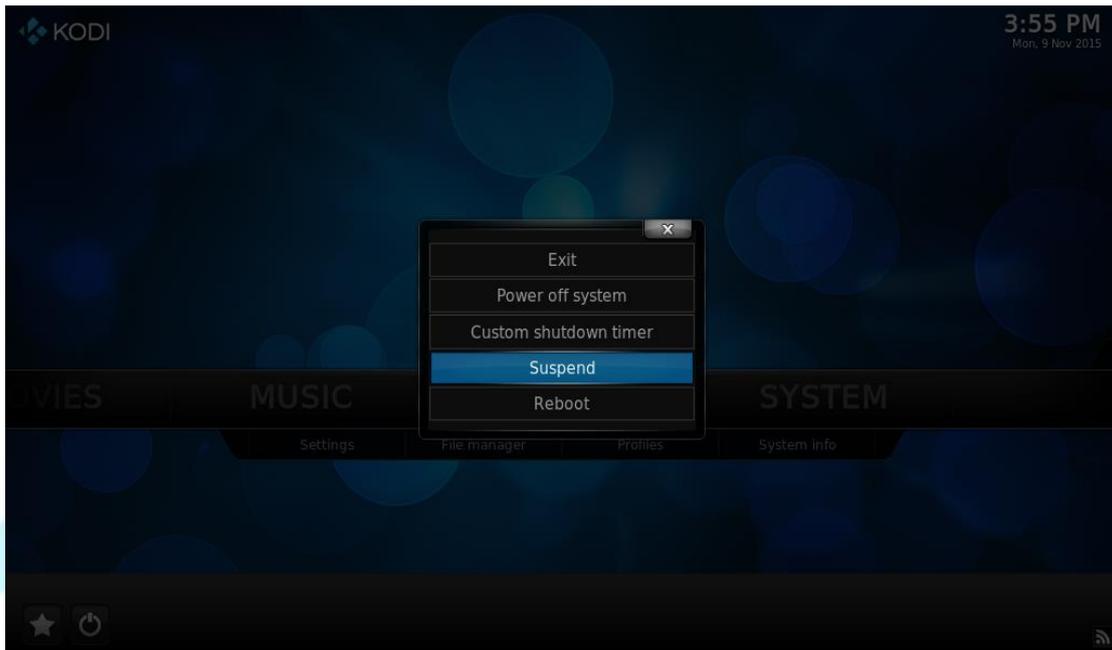




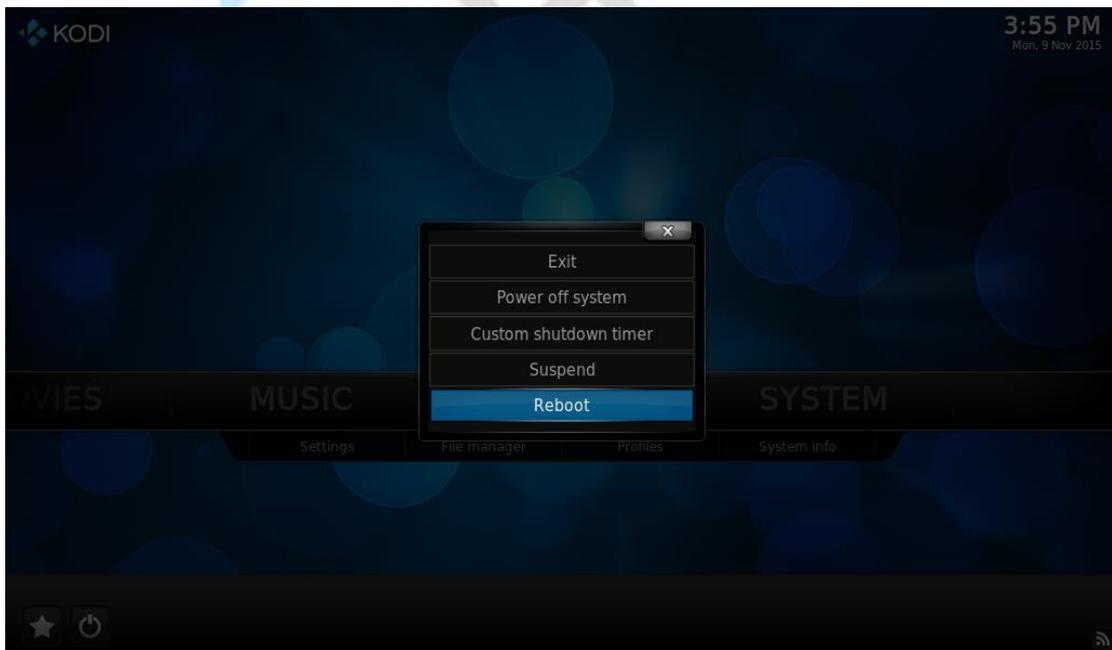
(2) [Custom shutdown timer] option, we can choose how many minutes delayed to shut down the system;

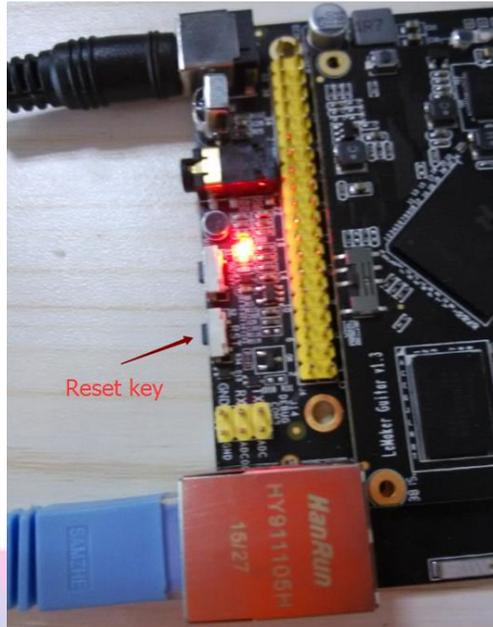


(3) Select [Suspend] option, the system will enter standby mode, we can activate the system by re-clicking the power switch on the remote control;



(4) Select [**Reboot**] option, the system will reboot, we can also use the reset button on the LeMaker Guitar board to restart the system.





9 What Video and Audio formats LeMedia support

LeMedia supports H.264, MPEG-4 codecs, etc., it can play a variety of popular video formats, and also supports all major audio formats, with its resolution up to 1080P.

Supported video formats	Supported audio formats
AVI, MP4, AVI, MKV, MOV, MPEG1, MPEG2,3GP, FLV and other common video formats	MP3, WMA, OGG, M4A, MKA, AC3, AAC and other audio formats