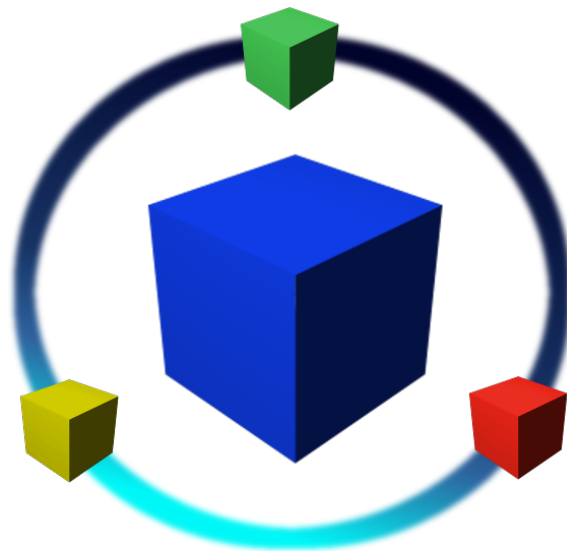


RemoteBox

Version 0.8

Open Source VirtualBox Client with Remote Management



Documentation

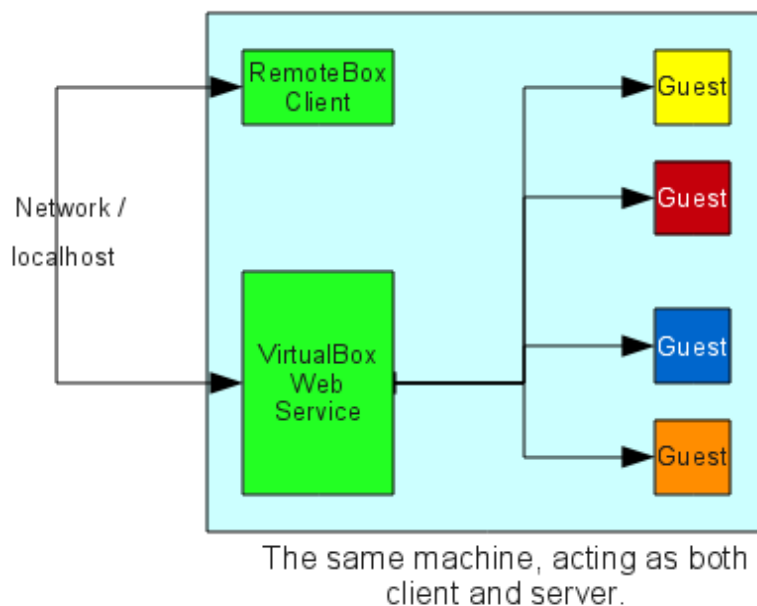
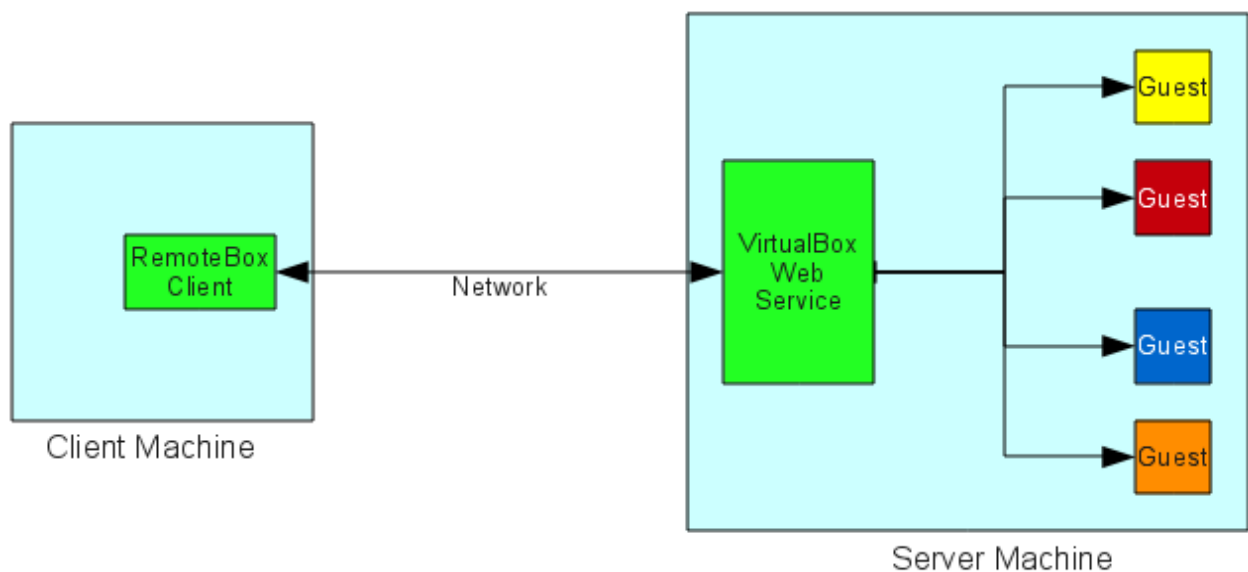
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1 Introduction

RemoteBox is a graphical (GTK) VirtualBox client, which lets you administer virtual machines (also known as guests) which reside on a remote server or even on your local machine if desired. You may for example have a server on the internet, a server at home or a server at work running VirtualBox but want to have the convenience of managing the guests easily from your own machine, without having to directly log into the server. The guests run in headless mode which means you don't need an active graphical display on the server but you can still connect and view the displays of the guests as if they were real machines.

The goal of RemoteBox is to provide a GUI that should be familiar to VirtualBox users whilst allowing them to administer a remote installation of VirtualBox. It does this via the VirtualBox API and SOAP interface which are exposed when running the VirtualBox web service (i.e. vboxwebsrv). You can also use RemoteBox simply as an 'alternative' interface for managing VirtualBox on your local machine. RemoteBox runs on a variety of operating systems including Linux, *BSD and MacOS X and the server can run any operating system supported by VirtualBox.



2 RemoteBox Requirements

This section provides an overview of the general requirements of RemoteBox. Additional information specific to your operating system or distribution may be found below.

- Perl v5.8 or newer is recommended
- gtk2-perl v1.203 or newer is recommended
- SOAP::Lite perl module v0.710.10 or newer is recommended.
- An RDP client if you want to connect to the remote display of Guests. I recommend 'rdesktop' or 'freerdp' if your OS supports them.
- VirtualBox 4.0.x
- The Oracle Extension Pack should also be installed. The pack may be obtained from <http://www.virtualbox.org/wiki/Downloads> Follow the instructions on the page to install them.

2.1 Fedora

Use your preferred package management tool to ensure the correct packages are installed. For example, with yum:

```
yum -y install perl-Gtk2 perl-SOAP-Lite perl-libwww-perl rdesktop
```

In recent editions of Fedora, FreeRDP is also available for use as an alternative to rdesktop. If you wish to use FreeRDP then ensure that the freerdp and freerdp-plugins packages are installed.

2.2 Mandriva

Ensure the required RPM packages are installed, either by using the graphical tool RPMDrake or from the command line with root privileges by typing:

```
urpmi perl-Gtk2 perl-SOAP-Lite rdesktop
```

2.3 OpenSUSE

Ensure the required RPM packages are installed, either by using the graphical tool Yast or from the command line with root privileges, by typing:

```
zypper install perl-Gtk2 perl-SOAP-Lite rdesktop
```

2.4 Ubuntu

Ensure the required DEB packages are installed, either by using the Synaptic package manager or from the command line by typing:

```
sudo apt-get install libgtk2-perl libsoap-lite-perl rdesktop
```

FreeRDP is also available in recent editions of Ubuntu which can be used as an alternative to rdesktop.

2.5 Mac OS X

Mac OS X typically does not come with the vast majority of dependencies for running complex UNIX graphical apps, so usually a 3rd party repository system is required. MacPorts is known to provide everything you need to get RemoteBox up and running.

Follow the instructions for getting MacPorts setup and installed on your Mac at <http://www.macports.org>. You should ensure that X11 and the XCode developer suite are installed. If they are not, they can be found on your operating system CD or downloaded from Apple. Once MacPorts is installed, you should install the following ports (note, this will take considerable time as MacPorts downloads and installs

many dependencies) .

```
sudo port install p5-gtk2 p5-soap-lite rdesktop
```

Next, you will need to modify the very first line in the `remotebox` file so that it uses the MacPorts version of Perl. Open the file in a text editor and replace the first line as follows:

```
#!/usr/bin/perl
```

replace with

```
#!/opt/local/bin/perl
```

2.6 NetBSD

Ensure the required packages are installed by using `pkg_add`, `pkgin` etc. For example:

```
pkgin install p5-gtk2 p5-SOAP-Lite p5-libwww rdesktop
```

Next, you will need to modify the very first line in the `remotebox` file so that it uses NetBSD's perl. Open the file in a text editor and replace the first line as follows:

```
#!/usr/bin/perl
```

replace with

```
#!/usr/pkg/bin/perl
```

2.7 FreeBSD

Use your preferred package management tool to ensure the required packages are installed. For example, with `pkg_add`:

```
pkg_add -r p5-Gtk2 p5-SOAP-Lite rdesktop
```

FreeRDP is also available in recent editions of FreeBSD which can be used as an alternative to `rdesktop`. The package name is simply `freerdp`.

2.8 OpenBSD

Use your preferred package management tool to ensure the correct packages are installed. For example with `pkg_add`:

```
sudo pkg_add p5-Gtk2 p5-SOAP-Lite rdesktop
```

Note: OpenBSD 4.8 does not have a correctly function Gtk2 perl module available.

3 Configuring the Server

VirtualBox should be installed on the system acting as the server. You do not need VirtualBox installed on the client system, unless the same machine is both the client and the server. Also note that the client and server do not have to run the same operating system. RemoteBox for example could be running under Linux whilst connecting to VirtualBox on a server running Windows.

3.1 Setting up the Web Service

Most of the information is available in the VirtualBox manual, however some additional guidelines are provided here.

The web service is not intended to be accessed using a web browser, but by clients that use SOAP over HTTP, such as RemoteBox. The web service needs to be running in order for RemoteBox to communicate with VirtualBox over the network. Following sections describe how to configure the VirtualBox web server as a system service. To manually start the web server, the `vboxwebsrv` command is used, which should have been installed by default as part of your VirtualBox installation.

If this command is not in your path, you will need to change to the directory where it's installed and run it from there. The command `vboxwebsrv` is usually installed within the same directory as VirtualBox itself.

The web service should be started as the same user whose VirtualBox guests you intend to administer. Starting the web service is as simple as running the command '`vboxwebsrv -t0 -H <ip>`' on the server, where `<ip>` is the IP address you want the service to listen on. This will start the web service running on port 18083 by default, with timeouts disabled. **It's highly recommended that you do not enable timeouts.**

For certain operating systems, the VirtualBox web service is integrated into the standard system services, which means it can be stopped and started in the same fashion as any other service, including being started automatically on system boot.

3.2 Running as a Standard System Service on Linux

Starting with VirtualBox 3.2.10, an init script for starting and stopping the web service is automatically installed and is usually located in '`/etc/init.d/vboxweb-service`'. This can be used instead of manually launching the web service. Before you start the web service, you must edit or create its configuration file: '`/etc/vbox/vbox.cfg`'.

The configuration file supports several options but should contain at least the following:

```
VBOXWEB_USER="<myuser>"
VBOXWEB_TIMEOUT=0
VBOXWEB_HOST=<ip>
```

Where `<myuser>` is the user that you want to start the web service as and `<ip>` is the IP address that the service should listen on. Starting, stopping and enabling the automatic start up of services on boot up, varies between Linux distributions so you should consult your distribution's documentation if you are not sure how to do this but as an example for Fedora and compatible distributions you would do:

```
service vboxweb-service start
chkconfig vboxweb-service on
```

Caution: If you're using packages from the VirtualBox website, it's recommended to store a backup copy of `vbox.cfg` because at least some of their packages have a tendency to delete `vbox.cfg` during a VirtualBox upgrade.

3.3 Running as a Standard System Service on Solaris

On Solaris, the web service is automatically integrated into the SMF (Solaris Management Framework), which can be used instead of manually starting the web service. You should configure the service to start as the user whose guests you want to administer and ensure the service starts up with timeouts disabled. This can be done as follows:

```
svccfg -s svc:/application/virtualbox/webservice:default setprop config/user=<myuser>
svccfg -s svc:/application/virtualbox/webservice:default setprop config/timeout=0
svcadm refresh svc:/application/virtualbox/webservice:default
```

To start the web service, do the following:

```
svcadm enable svc:/application/virtualbox/webservice:default
```

3.4 Running as a Standard System Service on Mac OS X

A standard plist file is included with VirtualBox which is usually located in:

```
$HOME/Library/LaunchAgents/org.virtualbox.vboxwebsrv.plist
```

Edit the file with a text editor and change the Disabled key from true to false. The service can then be started by typing:

```
launchctl load ~/Library/LaunchAgents/org.virtualbox.vboxwebsrv.plist
```

3.5 Running as a Standard System Service on Windows

At this point in time, VirtualBox does not integrate the web service on windows. You must either start the web service manually from the command line, or provide your own solution.

3.6 Disabling Authentication to the Web Service

Disabling authentication is not recommended because it will leave your guests vulnerable, however it may be useful for debugging purposes, particularly if you are experiencing trouble logging in. To disable authentication, execute the following command on the server:

```
vboxmanage setproperty websrvauthlibrary null
```

When connecting with RemoteBox, simply leave the username and password options blank.

4 Using RemoteBox

This section describes some basic principles of using RemoteBox, with particular emphasis on where RemoteBox differs from VirtualBox. RemoteBox supports almost all the features of the standard VirtualBox GUI in addition to many features which aren't available in the VirtualBox GUI. This section does not go into great depth because hopefully using RemoteBox should be reasonably familiar to anybody that has used the VirtualBox's native graphical interface. **RemoteBox makes heavy use of tool-tips to describe what the options are and do, users are highly encouraged to read them.**

RemoteBox is essentially a web client application. In other words, almost everything you do with RemoteBox, requires communicating over the network to the server, even simply clicking a button. This means that the speed of your network is very important to the responsiveness of RemoteBox itself.

4.1 Launching RemoteBox

Unpack the RemoteBox archive, open a command line window and change to the directory where RemoteBox is located. To launch RemoteBox, type:

```
./remotebox
```

If RemoteBox does not launch but instead displays some error information, you probably have not fulfilled RemoteBox's requirements. Please see the requirements section of this manual.

The next step is to connect to the server, which should already be running the VirtualBox web service as described earlier.

4.2 Connecting to Server

In order to administer the virtual machines and guests, you should connect to the server running the VirtualBox web service. If you experience problems logging on, consider disabling authentication to the web server for testing purposes, see Chapter 3. Pressing the "Connect" button will open a dialog window, where the following information should be supplied:

4.2.1 URL

The URL of the server to connect to. This is generally of the form 'http://<server>:<port>'. If the port number is omitted it will assume the default of 18083.

4.2.2 Username

This is usually the username that the VirtualBox web service is running as. If you have authentication disabled, then leave it empty.

4.2.3 Password

This is usually the password of the user that the VirtualBox web service is running as. If you have authentication disabled, then leave it empty.

4.3 The Main Window

The main window should be familiar to users of VirtualBox. It's worth mentioning however that the status of the guests are not updated in real-time, although this may change in the future. To explicitly see changes which have occurred outside of RemoteBox (e.g. another process powered on a guest) you can use the Refresh button. The details for a guest are not automatically displayed when selecting a guest. This is intentional as it avoids retrieving large amounts of information from the server, ultimately slowing down the selection of the guest. Instead, the details information for a guest can be displayed by double clicking the guest or by explicitly pressing the 'Details' button.

4.4 Remote Display

RemoteBox makes use of the RDP feature of VirtualBox in order to show the guest's display. To use this option, each guest should be configured with the RDP server enabled. If you intend to run multiple guests simultaneously, then each guest's RDP server should be configured to run on a separate port number. **For guests created directly with RemoteBox, the RDP server is automatically enabled** and a random port assigned. See section 4.6 Creating New Guests for further information.

By default, RemoteBox uses an RDP client called `rdesktop`. However, you can also use alternative clients such as `freerdp` (ie `xfreerdp`) or you can configure RemoteBox to use your preferred client, providing it accepts command line parameters. In the preferences window of RemoteBox you should enter the path to your RDP client and include any desired options. RemoteBox uses special values which are substituted when the RDP client is launched and these should be used where your RDP client expects to see things such as the host-name. For example, the default is:

```
rdesktop -T "%n - RemoteBox" %h:%p
```

Alternatively, if you wanted to use `xfreerdp` (which is actually better than `rdesktop`) you could use:

```
xfreerdp -g 1024x768 %h:%p
```

The supported special values are:

%h	The hostname of the server running VirtualBox, that RemoteBox is connected to.
%n	The name of the guest. Useful for setting the RDP window title
%o	The operating system of the guest
%p	The port number to use when connecting with RDP
%P	The password used to connect to VirtualBox
%U	The username used to connect to VirtualBox

4.5 Remote Display with Sound

It is possible to hear the sound output from the guests' in much the same way you can see their display, providing your RDP client supports sound. `Rdesktop` for example can use sound if it's compiled to do so. It's advised that you configure the guest to use the dummy audio driver otherwise it will try to use the server's sound output, which may or may not be available. To enable sound with `rdesktop` simply add the following parameter to the RDP client preferences in RemoteBox.

```
-r sound:local
```

4.6 Creating New Guests

Creating guests is similar to VirtualBox except that RemoteBox will automatically enable the RDP server of the guest and pick a random port between 50000 and 65000 for it to run on. The reason being that each guest should ideally use a different RDP port, particularly if you plan on running more than one simultaneously. This also allows the 'Remote Display' option to work in RemoteBox. If you're unhappy with the chosen port or with the RDP server being enabled, these can be changed in the guest's settings.

4.7 Virtual Media Manager

All media is from the reference point of the server and not the RemoteBox client, so when adding additional media such as CD/DVD images, expect to see the file system layout of the server and not your client machine.

4.8 Installing Guest Additions

If you have not done so already, you must add `VBoxGuestAdditions.iso` to the Virtual Media Manager (VMM). Choose Add DVD/CD, just as you would with any other CD-ROM or DVD image. The ISO is installed by default with your installation of VirtualBox. Once it's available in the VMM, you can attach it to the CD/DVD drive of the guest machine and install the Guest Additions. The default location of the ISO, depends upon your servers operating system. See the table below.

Linux	<code>/usr/share/virtualbox/VBoxGuestAdditions.iso</code>
Windows	<code>C:\Program Files\Oracle\VirtualBox\VBoxGuestAdditions.iso</code>
Mac OS X	<code>/Applications/VirtualBox.app/Contents/MacOS/VBoxGuestAdditions.iso</code>
Solaris	<code>/opt/VirtualBox/additions/VBoxGuestAdditions.iso</code>

5 FAQ & Troubleshooting

If you experience problems when using RemoteBox, viewing the web service logs or the guest logs on the server may provide an additional source of information. Sometimes, restarting the web service may help.

5.1.1 *Does RemoteBox need to be running on the same operating system as VirtualBox?*

No, the RemoteBox client and VirtualBox installation can reside on different operating systems. For example, one can install it RemoteBox on Linux but administer a Windows installation of VirtualBox.

5.1.2 *Can I use RemoteBox to administer VirtualBox on the same machine?*

Yes. Just ensure the VirtualBox web service is running on the same machine and by default connect to <http://localhost:18083>

5.1.3 *Does RemoteBox run on Windows?*

At the moment no perl distribution for Windows, that I'm aware of, supports the perl modules required by RemoteBox. If you get RemoteBox to run on windows, please let me know.

5.1.4 *Does RemoteBox run on my favourite flavour of 'UNIX'?*

Probably, however many flavours of UNIX (particularly commercial flavours) do not come with the appropriate dependencies as standard, nor have a repository for the easy installation of them. This means in all likelihood, you'll have to 'roll your own'.

5.1.5 *How can I set the display size for the guest?*

Use the "Set Video Hint" option in the machine menu and choose a pre-defined resolution or choose your own. Providing the guest has the guest additions installed and enough Video RAM configured to support the resolution it should switch resolution.

5.1.6 *I connect with RemoteBox but it doesn't show any guests?*

Assuming you actually have some guests, check that you are using the correct authentication credentials. If in doubt, see the section on disabling authentication to the web service. You may also need to ensure that the web service is running as the user you're connecting as.

5.1.7 *Why is RemoteBox restricted to certain versions of VirtualBox?*

VirtualBox versions are generally of the form Major.Minor.Micro (e.g. 3.2.2). VirtualBox only guarantees API compatibility between versions if it is the Micro suffix which has changed. For example 3.1.6 is compatible with 3.1.8, but 3.1.8 is not entirely compatible with 3.2.0. In order to reduce code complexity RemoteBox only targets the latest version of the API at the time of release. It will warn you, if you use an incompatible version but you may experience problems if you choose to continue.

5.1.8 *Why are the mouse pointers are out of sync when using Remote Desktop?*

To enable mouse synchronisation, guest additions should be installed and running within the Virtual Machine. If there are no guest additions for your operating system, then using a VESA display driver may also help synchronise the mouse. Additionally if the guest operating system supports USB devices then configuring the mouse type as USB Tablet will help.

5.1.9 *I run VirtualBox 3.2.X, what version of RemoteBox is required?*

The last version of RemoteBox to support VirtualBox 3.2.X was 0.5. Versions of VirtualBox earlier than 3.2.0 are not supported by any version of RemoteBox.

6 Licence

RemoteBox itself, is published under the terms of the "GNU GENERAL PUBLIC LICENSE, v2" or any later version. The use of RemoteBox in whole or in part constitutes acceptance of these terms. For further information, please see <http://www.gnu.org/licenses/gpl-2.0.html>

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7 Disclaimer

For the full details, please see the "NO WARRANTY" section of the GPL. In short, you are entirely and wholly responsible for all consequences resulting from your use, or misuse of RemoteBox. Including but not limited to, loss of or damage to data, hardware, money and all consequences that arise as a result. In other words, if RemoteBox breaks something, you get to keep the pieces! ☺

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8 Contact

If you have any queries regarding RemoteBox, please send an email to:

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