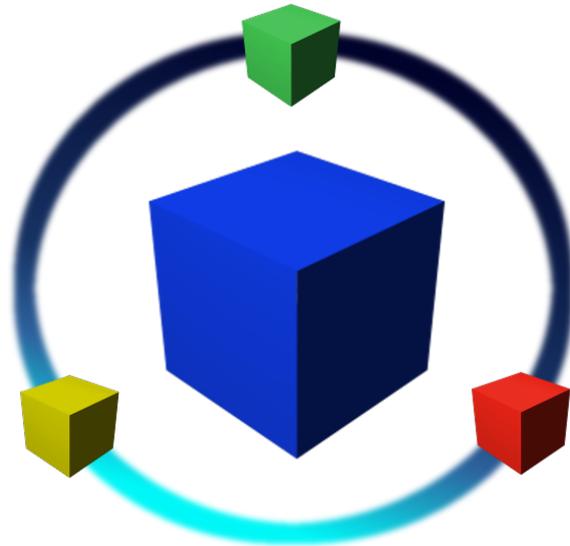


# RemoteBox Version 1.1

Open Source VirtualBox Client with Remote Management



## Documentation

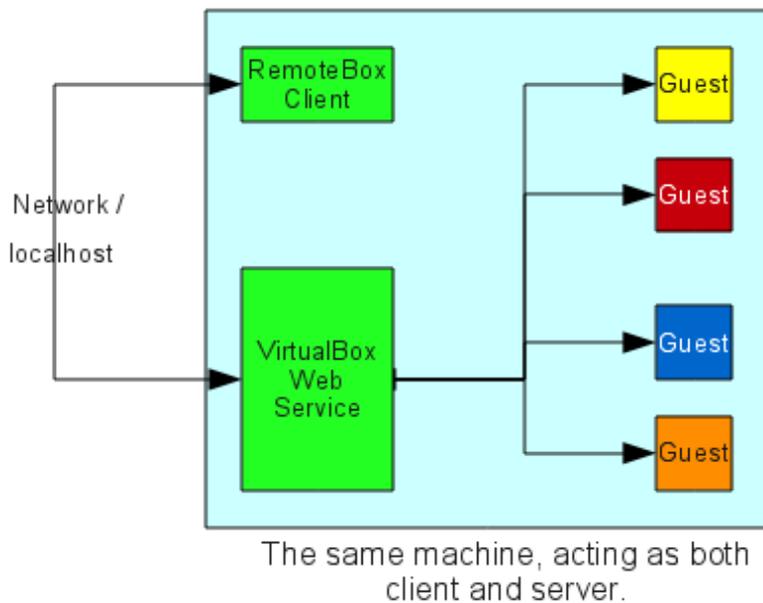
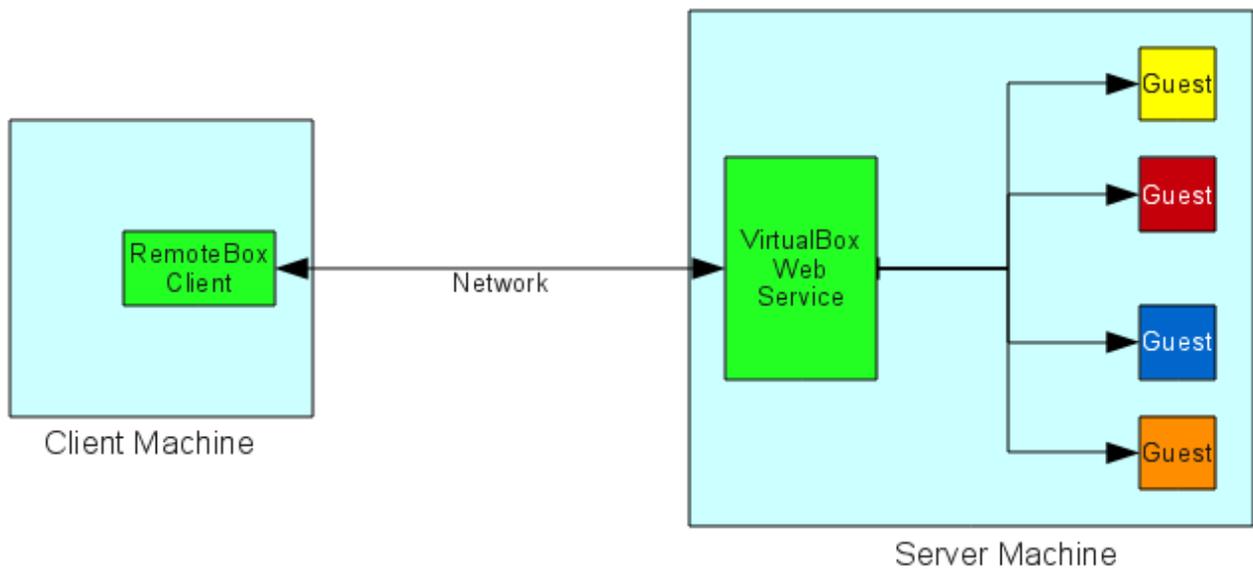
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# 1 Introduction

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 4.1.x installed on the server
- The Oracle Extension Pack should also be installed on the server. 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 / Mint

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 3<sup>rd</sup> 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 or newer does not appear to have a correctly functioning Gtk2 perl module available.

## 2.9 Solaris (including OpenIndiana / OpenSolaris)

Unless you want to manually compile and install all the dependencies yourself, it's recommended that you set up and install the OpenCSW repository. Please follow the instructions at <http://www.opencsw.org>.

Once OpenCSW is configured, please install the following packages as root using `pkgutil`, for example:

```
pkgutil -i pm_gtk2 pm_soaplite rdesktop
```

If `pkgutil` is not in your default path, please ensure you have added `/opt/csw/bin` to the default command path as described on OpenCSW.

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

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

**replace with**

```
#!/opt/csw/bin/perl
```

## 3 RemoteBox Installation

Please ensure you have installed the dependencies mentioned in Chapter 2 and consulted the relevant section for your operating system. Assuming you have unpacked the tarball, simply change into the directory and run `remotebox` as follows:

```
./remotebox
```

Assuming all is well, you should be presented with the RemoteBox window. If not, please ensure you have the relevant dependencies installed. The RemoteBox directory can be placed anywhere you prefer or even renamed providing it retains it's layout. If you have not already configured the server, please do so now.

## 4 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. Please follow the instructions provided with VirtualBox or on the web site if you are not sure how to install VirtualBox for your server's operating system. It is also important that you install the Oracle Extension Pack for VirtualBox. The extension pack provides features such as remote desktop display and PXE booting. Without it, RemoteBox may not function as expected. You can download the Oracle Extension Pack from the VirtualBox website.

### 4.1 Setting up the Web Service

Assuming you have installed VirtualBox correctly on your server, the next step is to setup and run the VirtualBox web service. The web service is not for use with a web browser, but provides a means for RemoteBox to "speak" to VirtualBox on another system. Additional information on configuring the web service can be found in the VirtualBox manual but some additional guidelines are provided here.

## 4.2 Manual Web Service Start-Up

Unfortunately the web service is not integrated as a system service for all operating systems, in particular Windows. In this case the web service must be started manually, unless you want to implement your own custom solution on Windows. Manual start up can also be useful for debugging, however if your operating system supports it as a standard system service, it's recommended you use that. This is discussed in the following sections.

To manually start the web server, the `vboxwebsrv` command is used, which is installed as part of your VirtualBox installation on the server. If this command is not in your default path, you will need to change to the directory where it's installed and run it from there. This is usually within the same directory as VirtualBox itself was installed. It's important that the command is run as the same user whose virtual machines you want to administer. For example, if virtual machines were created as the user *john*, but I ran the web service as the user *mike*, I would not be able to see *john's* virtual machines. So I must also run the web service as *john*.

Open a command prompt or terminal and type in the following:

```
vboxwebsrv -t0 -H <ip>
```

Replace `<ip>` with the IP address of your machine. If you are not sure what your IP address is, you can use the `ifconfig` command on UNIX-like systems including MacOS X or use the `ipconfig /all` command on windows. 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 when using RemoteBox.

## 4.3 Running as a System Service on Linux

The web service init script is automatically installed and is usually located in `/etc/init.d/vboxweb-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.

## 4.4 Running as a System Service on Solaris

On Solaris the web service is automatically integrated into the SMF. 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
```

## 4.5 Running as a 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
```

## 4.6 Disabling Authentication to the Web Service

Disabling authentication is not recommended (or indeed not required) 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 as the user you want to disable authentication for:

```
vboxmanage setproperty webservauthlibrary null
```

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

# 5 Using RemoteBox

This section describes some basic principles of using RemoteBox, with particular emphasis on where RemoteBox differs significantly from VirtualBox. RemoteBox supports most of the features of the standard VirtualBox GUI as well as some additional features. This section does not go into great depth because hopefully using RemoteBox should be reasonably familiar to anybody that has used VirtualBox's native graphical interface. RemoteBox makes heavy use of tool-tips to describe what the options are and do.

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, so you should ensure your network is good and stable.

## 5.1 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. Details on how to do this are described elsewhere in this document. Pressing the *Connect* button will open a dialog window, where the following information should be supplied:

### 5.1.1 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. For example:

`http://myserver.home.lan:18083`

or

`http://192.168.1.5:18083`

### 5.1.2 Username

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

### 5.1.3 Password

The password of the user that the VirtualBox web service is running as. If you have authentication disabled you can leave it empty.

## 5.2 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.

## 5.3 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 5.5 Creating New Guests for further information.

By default, RemoteBox uses an RDP client called `rdesktop`. However, you can also use alternative clients such as `xfreerdp` (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

## 5.4 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
```

## 5.5 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.

## 5.6 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.

## 5.7 Installing Guest Additions

If you have not done so already, you should 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>

# 6 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.

### 6.1.1 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.

### **6.1.2 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>

### **6.1.3 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.

### **6.1.4 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'.

### **6.1.5 How can I set the remote 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. This may also depend somewhat on how compliant your RDP client is.

### **6.1.6 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.

### **6.1.7 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.

### **6.1.8 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 in your guest may also help synchronise the mouse. Additionally if the guest operating system supports USB devices then configuring the mouse type as a USB Tablet will help.

### **6.1.9 When I try to open the manual in RemoteBox, nothing is displayed. Why?**

RemoteBox requires the `xdg-open` command which is part of the `xdg-utils` package. This package is almost always installed by default on most distributions. Please ensure this package and an appropriate PDF viewer is installed.

### **6.1.10 I run VirtualBox 4.0.X, what version of RemoteBox is required?**

The last version of RemoteBox to support VirtualBox 4.0.X was version 0.9.

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

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

### **6.1.12 I run VirtualBox 3.1.X or earlier, what version of RemoteBox is required?**

Versions of VirtualBox earlier than 3.2.0 are not supported by any version of RemoteBox.

## **7 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>

RemoteBox is shipped with icons that are © Copyright Sun Microsystems and originate from the VirtualBox Open Source Edition, released under the GPL.

## **8 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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## **9 Contact**

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

packages [AT] amiga-hardware DOT com