

IPBrick - Version 5.0
Installation Manual

IP BRICK®

iPortalMais - Serviços de Internet e Redes, Lda.

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Chapter 1

Purpose of this document

This manual contains instructions about IPBrick installation.

Chapter 2

Before beginning

- When booting from the IPBrick CD, the software installation begins immediately.

ALL THE DATA ON THIS COMPUTER WILL BE LOST WITHOUT FURTHER NOTICE.

- There will be an active DHCP server after the IPBrick installation.

Chapter 3

IPBrick installation

The installation of an IPBrick server is made using a single CD.

3.1 Assumptions

- IPBrick installation CD (Bootable CD);
- PC Intel (x86 or superior) or AMD compatible;
- HDD: a minimum of 10GB of disk (total size of the hard disk drive);
- BIOS Bootable CD support;
- Network interface card (Ethernet 100Base-TX).

3.2 Installation Procedure

1. Put the IPBrick bootable CD on the PC;
2. Enable booting from CD on the PC BIOS;
3. Boot the PC using the IPBrick auto install CD;
4. It will appear an IPBrick logo and a command prompt `boot:` (Figure 3.1)

ATTENTION!

This installation will destroy all data in your hardrive.

Remove this CD-ROM if you don't want to install IPBRICK onto this hard drive.

Press F1 for help, or ENTER to
`boot:`

5. Fifteen seconds later the automatic installation process starts. The performed actions are showed:
 - Warning regarding the begining of the installation process.

- Kernel image loading.
- After startup, the auto installations script will attempt to detect the computer's hardware configuration where the IPBrick is being installed.

```
Starting system log daemon
Loading modules
Creating devices
Setting up keyboard
Searching CDROM
CDROM Found in: ___
MOUNTING CDROM
```

6. After detecting all the hardware devices, a partition table will be created on the hard drive.

```
STARTING HARD DISK DRIVE...
HDD FOUND
USING: ___
CHECKING DISK SIZE...
RESIZING HOMEs to FULL disk size
WRITING PARTITION TABLE TO HDD...
```

7. After this process the computer reboots.

```
GOING TO REBOOT NOW!
DO NOT (NOT) REMOVE IPBRICK RECOVER CD
GOING TO REBOOT NOW!
```

Note: If more than 3 reboots took place during automatic install then you must abort the installation.

8. The auto install process starts once more, detecting that the partition table has already been applied to the disk.

```
HDD PARTITIONED
PROCEEDING WITH INSTALLATION
```

9. The partition preparation takes place.

```
FORMATING HDD...
This step can take some time please wait...
FORMATING HDD /dev/___1
FORMATING HDD /dev/___3
FORMATING HDD /dev/___5
FORMATING HDD /dev/___6
FORMATING HDD /dev/___7
FORMATING HDD /dev/___8
FORMATING SWAP
MOUNTING NEW FILESYSTEM...
```

10. The software installation:

```
INSTALLING...
This step can take some time please wait...
INSTALLING DRIVE /cdrom/data/drive1.dat
...
INSTALLING DRIVE /cdrom/data/drive6.dat
System is now installed.
```

11. The installation process ends with the CD-ROM ejection. Before the CD-ROM ejects, the following message will be displayed:

```
UMOUNTING CDROM
REMOVE CDROM BEFORE REBOOTING YOUR SYSTEM
DO NOT RESTART SYSTEM WITH IPBRICK RECOVER CD
UMOUNTING ALL
END Installation scripts.
..
```

12. Remove the installation CD and reboot the computer;
13. During the system boot make sure that the BIOS is configured to boot from the hard disk drive (HDD);
14. After the BIOS boot up sequence, it will display the boot loader (*Grub*);
15. Next, the kernel startup messages will appear. The kernel startup sequence should end with the following lines:

```
Debian GNU/Linux 3.1 ipbrick tty1

ipbrick login:
```

3.3 Installation Boot options

As seen the IPBrick installation is automatic but if F1 key is pressed you will get some additional information about boot options and parameters (Figure 3.1).

- Pressing F1 will appear the interface shown at Figure 3.2;
- Pressing F2 you will get a interface with the boot methods options (Figure 3.3);
- Pressing F3 you will get a interface with special boot parameters (Figure 3.4).



Figure 3.1: IPBrick Installation - Boot

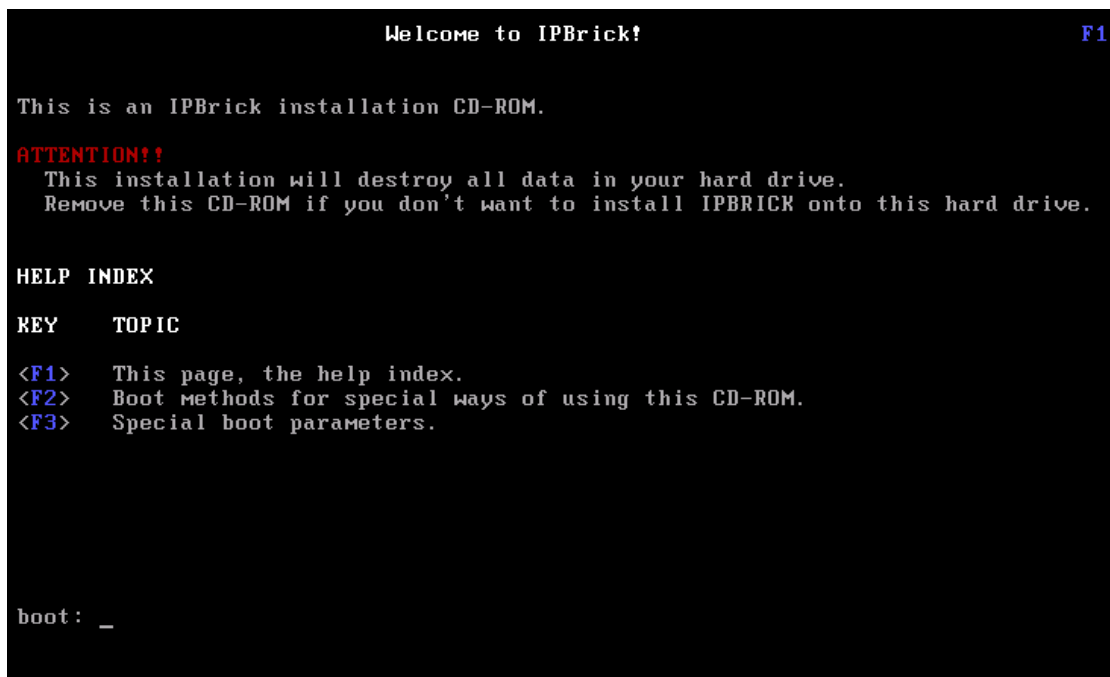


Figure 3.2: IPBrick Installation - Help Index

```
IPBrick BOOT METHODS F2

This is an IPBrick installation CD-ROM.

ATTENTION!!
  This installation will destroy all data in your hard drive.
  Remove this CD-ROM if you don't want to install IPBRICK onto this hard drive.

Available boot methods:

ipbrick
  Start the installation -- this is the default CD-ROM install.
manual
  Boot from CD into a command shell

To use one of these boot methods, type it at the prompt, optionally
followed by any boot parameters. For example:

  boot: ipbrick verbose

If unsure, you should use the default boot method, with no special
parameters, by simply pressing enter at the boot prompt.
boot: _
```

Figure 3.3: IPBrick Installation - Boot methods

```
IPBrick SPECIAL BOOT PARAMETERS F3

You can use the following boot parameters at the boot: prompt,
in combination with the boot method (see <F2>).

Available boot parameters:

verbose      Boot in verbose mode
quiet       Boot in quiet mode
nofakeraid  Disable fakeraid detection
nobackupsys Disable system data backup
ext3       Format using ext3 filesystem
xfs        Format using xfs filesystem

For example:

  boot: ipbrick verbose nofakeraid

If unsure, you should use the default boot method, with no special
parameters, by simply pressing enter at the boot prompt.
boot: _
```

Figure 3.4: IPBrick Installation - Special boot parameters

3.4 Error Messages

During the installation process it may show some messages. The critical messages are:

- The installation scripts do not detect the CDROM drive:

```
CDROM NOT FOUND : Aborting INSTALL Scripts (NOT OK)
```

- The installation scripts do not detect the hard disk drive (HDD):

```
NO HARD DISK FOUND... (NOT OK)
ABORTING INSTALLATION... (NO HDD)
```

- The hard disk drive does not have the minimum size required:

```
NOT ENOUGH SPACE ON HDD
DISK SIZE: XXXX MegaBytes
NEEDED CAPACITY: YYYY MegaBytes
NOT ENOUGH SPACE ON HDD
```

Critical errors are due to:

- Physical hardware failure: the disk does not exist or it has a wrong configuration (eg: IDE bus, check for MASTER and/or SLAVE).
- Wrong BIOS configuration: check that the hardware is correctly configured (HDD, RAID controllers).
- If all above is correct, then the IPBrick CD that you have shouldn't support your specific hardware configuration. Please send your hardware description and configuration by mail to support@ipbrick.com. You will be contacted by the IPBrick Technical Department.

3.5 Customized Installation

If you insert a Pendrive into server before the installation, it's possible to make a customized installation of IPBrick.

3.5.1 Custom Partitioning

Before the installation process, you need to create a file called *parts.dat* in the pendrive root path, with the needed partition table structure (available for Download in Documentation section). Next is presented the structure with the explanation:

```

750 -> Represents the /root partition. Fixed size
1024 -> Represents the /swap partition. Fixed size
2500 -> Represents the /usr partition. Fixed size
0    -> Do not change!
3500 -> Represents the /var partition. Fixed size
1000 -> Represents the /opt partition. Fixed size
100  -> Represents the /home1 partition. Minimum size
100  -> Represents the /home2 partition. Minimum size
7    -> Do not change!

```

The remaining disk space will be allocated in the partition /home1 and /home2.

3.5.2 Software RAID installation

You can have RAID configuration by software. Before the installation process, you should create another file called *ipbrick.cfg* in the pendrive root path with. Next is presented the structure with the explanation:

```

CONFIGSOFTRAID=1      -> Activates the software RAID
SOFTRAIDHDD[0]="sda"  -> It's the disk 1 device
SOFTRAIDHDD[1]="sdb"  -> It's the disk 2 device
SOFTRAIDPARTSUF="p"   -> Do not change!
RAIDTYPE=1           -> It's the RAID type

```

You should know specifically the correct designation of hard drives devices before the file creation, which depends of the used technology: IDE, SCSI, SATA etc.

Error messages

The typical error messages are:

- Message 1: The system cannot find hard disks and proceed with installation. This is a critical error because no disks were detected, so it's impossible to install the system.

```

NO HARD DISK FOUND... (NOT OK)
ABORTING INSTALLATION... (NO HDD)

```

- Message 2: The installation is in the second boot, the RAID was created in the first boot but it can't initialize. It's a critical error because the system knows that a RAID is configured but it can't be initialized.

```

Failed to assemble software raid
ABORTING INSTALLATION...

```

- Message 3: The installation is in the first boot and tries to create the RAID, but unsuccessfully. The system detects the RAID configurations in pen but can't create the raid:

```
Failed to config software raid
ABORTING INSTALLATION...
```

- Message 4: Here the installation is almost done and the Boot Loader is being configured but the boot loader is not installed properly. So it can be critical - the machine could not boot because the Boot Loader was unsuccessfully installed.

```
ERROR installing boot loader.
ABORTING INSTALLATION...
```

Note: The files must be saved in ASCII format. If you want to test that you can do `file <filename>` in Linux console.

Chapter 4

Managing the IPBrick

4.1 Network configuration

The IPBrick default network configurations are as follows:

- Private network interface card (eth0)
 - IP: 192.168.69.199
 - Network: 192.168.69.0/24
- Public network interface card (eth1)
 - IP: 10.0.0.253
 - Network: 10.0.0.252/30
- Gateway: 10.0.0.254 (eth1)
- Hostname: ipbrick.domain.com

4.2 Connecting to IPBrick

The computer where you are installing the IPBrick may have one, two or more network interface cards (NIC).

The first NIC that IPBrick will detect during the kernel startup sequence will be the private one (also known as internal). It is this NIC that we will work with in the following sections.

There are two ways to Access IPBrick:

- Direct connection using a crossover network cable
- Connecting through a hub or a switch

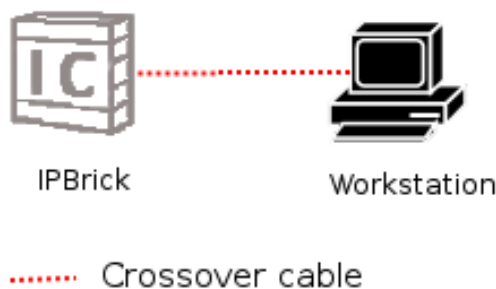


Figure 4.1: Direct connection between an IPBrick and a PC

4.2.1 Direct connection

It is necessary to connect a crossover network cable to the NIC of the management station (eg. a laptop PC) and to the NIC on the IPBrick computer. (Figure4.1).

In this scenario, the network configuration of the management station may be set to receive automatic IP address and DNS configuration - DHCP client.

In the following configuration example we will be using a laptop computer installed with the MS Windows XP operating system.

The configuration received from the DHCP is:

- IP Address: 192.168.69.64 to 192.168.69.95;
- Subnet Mask: 255.255.255.0;
- Default Gateway: 192.168.69.199;
- DNS Server: 192.168.69.199.

Procedure to set the dynamic IP configuration (DHCP)

1. Press the [windows] key
2. Choose *My Network Places*
3. Choose *Show network connections*
4. Right-click on the *Local network connection* icon and select *Properties*
5. In the next dialog window, select *TCP/IP* and click on *Properties*
6. In the next dialog window, select "Get automatic IP configuration" and "Get DNS servers address automatically"
7. Close the "TCP/IP Properties" and the "Network Properties" windows to save the configuration changes.

If the management station was already configured with the configuration described above then you should proceed as follows:

Procedure to renew the IP address

1. Press keys [windows]+[R] (both at the same time)
2. Type *cmd* and press [ENTER] (or push the OK button)
3. Type *ipconfig /release* and press [ENTER]
4. Type *ipconfig /renew* and press [ENTER]
5. Type *ipconfig /all* and press [ENTER]
6. To close this window, type *exit* and press [ENTER]

To check your IP address, please proceed as follows:

How to check the IP address

1. Press keys [windows]+[R] (both at the same time)
2. Type *cmd* and press [ENTER]
3. Type *ipconfig /all* and press [ENTER]
4. To close this window, type *exit* and press [ENTER]

If at the end of this procedure you still don't have an IP address like the one described above:

1. Check for network connection (*link*, green light on) at the management station's network interface card. If you don't have link, please check if your network cable is in good shape and if it really is in deed a crossover network cable.
2. If IPBrick computer has two network interface cards, please connect your network cable to the other network interface card. Repeat **Procedure to renew the IP address**.

4.2.2 Connecting through a hub or a switch

Connect IPBrick network interface card to a hub or to a switch (Figure4.2). The management station must be connected to the same hub or switch (alternatively one must assure connectivity from the management station to that hub or switch).

In the following example we will use a management station running MS Windows XP operating system:

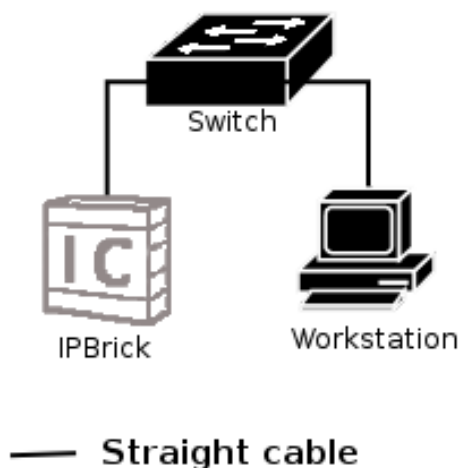


Figure 4.2: Connecting IPBrick to a PC with a switch

Procedure to configure static IP address

1. Press the [windows] key
2. Select *My Network Places*
3. Select *Show network connections*
4. Right-click on *Local area network connection* and select Properties.
5. In the dialog window select TCP/IP and push the Properties button.
6. In the dialog window, fill the following fields:
 - IP Address: 192.168.69.1
 - Network Mask: 255.255.255.0
 - Gateway: 192.168.69.199
 - Primary DNS Server: 192.168.69.199
 - Close this window pushing the Ok button
7. Close the Network Properties Window pushing the Ok button to save the changes.

4.2.3 Network Connectivity Test

To test the connection between the management station (in this example a MS Windows OS running computer) and the IPBrick server, proceed as follows:

Procedure to test network connectivity

1. Press keys [windows]+[R] (both at the same time)
2. Type *cmd* and press [ENTER]
3. Type *ping 192.168.69.199* and press [ENTER]
4. You should get the following lines from the ping utility:

```
Answer from 192.168.69.199: bytes=32 time<1ms TTL=64
Answer from 192.168.69.199: bytes=32 time<1ms TTL=64
Answer from 192.168.69.199: bytes=32 time<1ms TTL=64
Answer from 192.168.69.199: bytes=32 time<1ms TTL=64
```

```
Ping statistics for 192.168.69.199:
    Packets: Sent = 4, Received = 4, Lost = 0
```

5. To close this window, type *exit* and press [ENTER]

With the connection set, the IPBrick server may be Accessed using any web browser (eg: MS Internet Explorer, Mozilla, Netscape).
The URL address is : <https://ipbrick.domain.com> or <https://192.168.69.199>.

4.3 Logins and Passwords

4.3.1 IPBrick - Web Interface (GUI)

- URL
<https://192.168.69.199>
<https://ipbrick.domain.com>
- Name: admin
- Password: 123456

4.3.2 IPBrick - Console

- root : R01aBill
- operator: L1opardo

MARK: These password must be changed!

4.3.3 IPBrick - Email copy

There are two email accounts destined to the IPBrick received and sent messages storage. Initially the query (POP or IMAP) of this messages is done by:

Sent Email

- Login: `sentmail`
- Password: `L1opardo`

Received Email

- Login: `receivedmail`
- Password: `L1opardo`

Note: After the IPBrick installation this service is not active, but it can be activated later through the web interface in IPBrick.C- >> E-Mail- >> Mail Copy.

4.3.4 IPBrick - Kaspersky AntiSpam

IPBrick have a system email account named `spam`, that is used at Kaspersky Antispam. The idea is to get all the filtered spam in that specific account. Initially the query (POP or IMAP) of this messages is done by:

- Login: `spam`
- Password: `L1opardo`

Note: These notifications only exist if IPBrick have the Kaspersky AntiSpam licence.

4.3.5 IPBrick - Kaspersky notifications

IPBrick have a email account that receive the Kaspersky Antivirus notifications about actualizations and detected virus. Initially the query (POP or IMAP) of this messages is done by:

- Login: `kaspersky`
- Password: `L1opardo`

Note: These notifications only exist if IPBrick have some kind of Kaspersky licencing:

- Kaspersky for File Server;
- Kaspersky for Email Server;
- Kaspersky for Proxy.

4.3.6 IPBrick - Calendar

- URL
`http://calendar.domain.com`

The access to this service is grant to all IPBrick users. Each one must use its own login and password.

4.3.7 IPBrick - Contacts

- URL
`http://contacts.domain.com`
- Login and administration password:
`administrator : 123`

The access to this service is initially limited to the "administrator" user. This user will grant access and permissions to the other IPBrick users. Each user should use its own login and password to authenticate.

4.3.8 PostgreSQL - DataBase Server

- URL
`http://pgsqladmin.domain.com`
- Login and administration password:
`sqlserver : sqlserver`

4.3.9 MySQL - DataBase Server

- URL
`http://mysqladmin.domain.com`
- Login and administration password:
`root : root`

4.3.10 Arkeia - Backup Server

To access Arkeia's management console, you must browse the IPBrick web interface to:

```
IPbrick - I
Backup Server
Open
```

It is required an initial password, this password is the same used to access the IPBrick web interface (GUI). At the Arkeia's management console the default credentials are:

- login: root
- Password: (*blank password*)

4.3.11 Bacula - Backup Server

- URL
`http://webacula.domain.com`
- Login and administration password:
`admin:123456`

This application allows the access to the backup web administration (Bacula).

4.3.12 Kaspersky Anti-Spam Enterprise Edition

To access Kaspersky Anti-Spam for Mail Server management console browse the IPBrick web interface to:

```
IPbrick.C
E-Mail
  Kaspersky Anti-Spam
```

The configuration interface is available only for "administrator" user. It is required an initial authentication, the login and password are the same used to access the IPBrick web interface (GUI).

4.3.13 MyIPBrick

- URL
`https://myipbrick.domain.com`

The access to this service is grant to all IPBrick users. Each one must use its own login and password.

4.3.14 Webmail

- URL
`http://webmail.domain.com`

The access to this service is grant to all IPBrick users. Each one must use its own login and password.

4.3.15 IPBrick - Instant Messaging

- URL
`http://ipbrick.domain.com:5280/admin/`
- Login and administration password:
`administrator@ipbrick.domain.com: 123`

This application allows specific configurations to the Instant Messaging service.

4.3.16 IPBrick - Callmanager

- URL
`http://callmanager.domain.com`
- Login and administration password:
`administrator:123`

This application allows the access to the Asterisk Callmanager.

4.4 Licence activation

4.4.1 Licence request

IPBrick is installed by default with a trial licence valid for 30 days. At the end of these trial period IPBrick will automatically restore the default Definitions.

To activate the IPBrick Permanent Licence you must proceed as follows:

1. Access the IPBrick web management interface and browse to

```
Advanced Configurations
- IPBrick
  - WEB Access
```

2. Click in the "Download the file to sent" link, save the file `file.dat` and sent it by e-mail to `support@ipbrick.com` with additional information like the company name and the IPBrick server type (Intranet, Communication or VoIP server);

4.4.2 Licence reception

You will receive an e-mail with an attached `licence.dat` file, this is your IPBrick licence activation file. To activate IPBrick licence please proceed as follows:

1. Access the IPBrick web management interface and browse to:

Advanced Configurations

- IPBrick
 - WEB Access

2. Click the "Cancel trial licence" link;
3. In the IPBrick licence activation form (Figure 4.3), click the "Browse" button and select the *licence.dat* file that you received. Push the *Insert* button;

You have activated IPBrick permanent licence. IPBrick is now ready to be used.

4.4.3 Licence expiration

At the end of the 30 days trial period, IPBrick will automatically reboot and restore the default definitions. When accessing to the web interface it will be shown the licence activation form (Figure 4.3).

4.4.4 Licence Activation code

At IPBrick 5.0 it's possible to activate the permanent licence using a activation code generated by the IPBrick team. The activation is done equally by the licence activation form choosing the option **Activation Code**.As seen at Figure 4.4 this fields are necessary:

- Activation code: Insert the activation code received;
- Customer's info: Company name and some info about the IPBrick server type;
- Email to send licence copy: A copy of IPBrick licence (file *licence.dat*) can be sent to the server administrator's email.

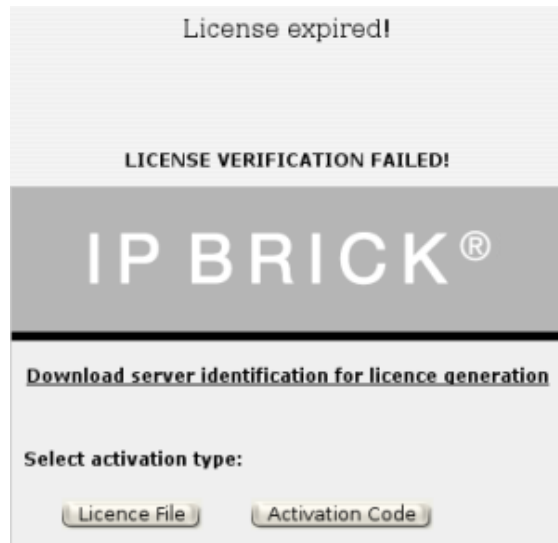


Figure 4.3: Licence Activation form



Figure 4.4: Licence Activation Code

Chapter 5

More information

5.1 Technical support

To contact IPBrick technical support, please send an e-mail to:
support@ipbrick.com.

5.2 Useful Links

- www.ipbrick.com
- www.iportaldoc.com
- www.iportalmais.pt
- www.kaspersky.com