HotspotBnB - User Guide

User Guide | Version 0.0.6

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CHAPTER 1

User Guide

Welcome to the HotspotBnB Operators Guide. Contained in this document is clear and helpful information to assist you in your understanding, use and enjoyment of HotspotBnB.

Index:

1.1 Release Notes and Notices

This section provides information about what is new or changed, including urgent issues, documentation updates, maintenance, and new releases. - "Updates" are the term used to describe significant changes to our public source code and/or records.

1.1.1 This Release (0.0.6)

2021-09-08 - *This document hasn't been updated in around 2 years, a lot has changed. Scheduled to be updated thoroughly soon*

Older Versions

In the table below the last entry displays a link to an archived copy of the last report. To keep the filename from overflowing in the table below the name displayed may differ from the file name. The date the file was archived will differ from the date of the document label, which is its creation date. If you're viewing this document on a subdomain of *.datro.world* you may need to right-click and select "open link in new tab`. In the interim of a bug fix, you can avoid right-clicking all together, by viewing our document library at its original location datro.xyz/static/library

Table1: Older Versions of this Document

archive date	version	description	download link
n/a	0.0.6	quick note	older versions will need locating - they existed before wayback or semantic version control was implimented

Version 0.0.5

In this version release our developement team have removed a barrier which requested new users adjust their router's subnet to match Wave's pre-set static IP, before booting up the device for the first time. An issue preventing the Edition from running and subsequently the initial installation from completing was also rectified.

- 25th Oct 2018: Development of version 0.5.0 begins
- The default IP during initial boot was static. The device will now await to be dynamically assigned and IP by the connected router
- The dynamically assigned IP (& Gateway & DNS) will autonomously convert to a static IP when a ping to 8.8.8.8 succeeds
- To avoid conflicting IP addresses on the network, this process will repeat in the even the connection is lost.
- 1st December 2018: Release for public download

Version 0.0.4

Published in Summer 2018. The image is much lighter (150Mb). But there were serious faults with this release and it should be disregarded. Possibly due to how we were compiling the image. We introduced PiShrink and brought in someone who was familiar at image compression before releasing another version. A point worth noting is that we are installing DietPi to an SD Card, alter a config file then taking a local copy of the image and compressing it. Which is an around the houses way to go about it we need to address. Perhaps we can fork DietPi, alter the config to use ours then compile it ourself rather than reverse engineering their final build.

Version 0.0.3

Published in Spring 2018 as proof-of-concept, demonstrating how easily our solution could be downloaded from our website (for free), copied to a Micro SD Card and upon inserSiôn (into any of the 19 million Single Board Computers in circulation) the device and the software operating it would perform as intended, without any programming knowledge or configuration required e.g. completely "plug & play". This demonstrated the methodology of quick deployment and scaling internationally. HotspotBnB version 0.1.0 also demostrated how product assembly could occur with a non-skilled/ robotic workforce. Faults with this version release include download time (it's 2GB) and restriction to the exact device type the source ran on. Since it's a snapshot (copy) only, outdates software is actually being transfered, instead of the latest source code being obtained during first boot. There are also many features not included in this image.

1.1.2 Known and Corrected Issues

Below is a table of pending issues that have been reported to our team. These issues will be cleared from this list as and when they are remedied.

Table2: Known Issues

Date	Version	Subject	Description
n/a	n/a	n/a	

1.2 Preperation & Planning

This guide has been written to help you prepaire your household and/or business for HotspotBnB. There is very little preperation and planning required with HotspotBnB, since it is intended to be a rapidly deployable solution. This guide also presumes you have little to no general technical knowledge.

1.2.1 Expectations

Obtaining HotspotBnB: - HotspotBnB is a free software which operates devices called Single Board Computers. More specifically the type know as: Raspberry Pi. HotspotBnB can be downloaded from our GitHub Repository - Releases page.

Target Device - If you have a Raspberry Pi already you can use and enjoy HotspotBnB immediately. If you don't already have a device, they can be purchased online and in you hands in a matter of a day.

Setting Up HotspotBnB: - After unboxing the device and ensuring the Micro SD Card is inserted (containing the latest version of HotspotBnB), you must connect the device to your internet router/modem using the Ethernet Cable provided or via Wi-Fi by configuring the appropriate files on the MicroSD Card. See a detailed guide here: GitHub Repository - Releases Then connect the Power Cable to the power outlet. You should also connect the HDMI Cable to a display if you wish to oversea the boot-up sequence.

It takes around 30 minutes for the device to boot up and self-build and configure, so please be patience. Upon successful completion the HotspotBnB dashboard will be accessible from any web-browser of any device on your network - simple enter the following hostname (http://hotspotbnb/) in the web-browsers address bar. If you experience any difficulty use the target devices IP address instead of the hostname. The hostname can sometimes take time.

Our Team ... There's xx,000's of software dependancies underlying this software package, and behind each one there's teams of people.

The technology is still early stage, (it's 2021 at the time of writing this). And technology can take months and even years to hit maturity.

Sony Manufacture the Hardware in Pencoed in Wales, the physical technology is called a Single Board Computer, more specifically they're Raspberry Pi's. At the time of writing this there are 30million+ Single Board Computers in circulation and HotspotBnB's is being developed for all kinds of these devices. But at this stage we are especially focused on the Raspberry Pi until our user base reaches critical mass. So if you have one already then great, download HotspotBnB for free from our GitHub Repo, and you're good to go.

1.3 Getting Started Guide

Get HotspotBnB running on any Raspberry Pi.

1.3.1 A) Download the latest release

1. Visit "Latest Releases <https://github.com/unclehowell/datro/releases/>"__ «DATRO Net-Installer Latest Release»)
2. Download the latest pre-comiled image (attached in the "assets" segment at the bottom of the release notes)

- a point to note about our GitHub releases. Our releases include "platform" and "software" release.
- "platform" is primarily all the website (the "gh-pages" branch). And is recognised by the extesion -rtw (release-to-web)

- "software" is primarily all the software (the "net-installer" branch). And is recognised by the extension -rc (release candidate)

Building from source (Developers)

1. Grab a local copy of this directory: - Git Checkout "/hbnb/arm/" from this "Net-Installer" Branch is the best and recommended method - Or Git Fetch/Clone the whole "Net-Installer" Branch will get files you don't need, but it's easier - Or Git Fetch/Clone or Zip download the entire monorepo is not recommend, since it's tens of gigabytes in size
    - If you need instruction on performing any of the above, visit [Collaborate with the DATRO Net-Installer Branch](https://github.com/unclehowell/datro/blob/net-installer/COLLABORATE.md «Collaborate with the DATRO Net-Installer Branch»)
2. **Run the following Command:** ***sudo bash ./compile.sh***
    - this script will produce an upto-date image entitled "hbnb-latest.img.xz"

1.3.2 B) Burn the image to your Raspberry Pi's MicroSD Card

Insert your Pi's MicroSD Card into your laptop/desktop computer Using your prefered Disk Burning Program, write the image to the Card.

- We recommend [RaspberryPi Imager](https://www.raspberrypi.org/software/ «RaspberryPi Imager») since it supports Windows, Mac & Linux
- Most other softwares do the same job if you prefer not to use RPI Imager e.g. Etcher, Win32 Disk Imager, Gnome Disk Utility etc
- But with RaspberryPi it defaults the format to FAT32, so you can be more sure not to screw up the build using it.

The disk image is now ready to go into your Raspberry Pi (providing the Pi has internet access via Ethernet)

Wireless (Wi-Fi) Support

If you prefer to power up your Pi and have it connect wirelessly to a Wi-Fi Access point (to establish internet access) then follow these steps: 1. Eject and re-insert the MicroSD Card into your machine 2. Navigate to /raspberrypi-ua-netinst/config/ in your favorate text editor

- Open the *installer-config.txt* file in Notepad
- Enter Wi-Fi SSID and Password where instructed and save the file

3. Eject your MicroSD Card - You're ready to proceed

If your using Ethernet(default) make sure your Raspberry Pi is connected via Ethernet to a router that has working internet access. If your using Wi-Fi make sure your Router is broadcasting Wi-Fi and the SSID/Passwords Match.

1.3.3 C) Power On and Bootup

- Insert your MicroSD Card into the Pi and apply power.
- HotspotBnB autonomously installs (over Ethernet/Wi-Fi)
- Connect to a TV via HDMI to see the progress
- Your Pi may reboot a few times, this is normal!

1.3.4 D) Accessing the Dashboard

Once the autonomous build has completed, identify the devices ip address (shown on your TV Screen, if connected - otherwise scan your network for the IP of the new device)

- Enter the Pi's IP address into the web browser of any device connected to your local network.
- Displayed in your web-browser should be the HotspotBnB dashboard.
- The remainder of the setup can be completed via the dashboard.

1.3.5 Notes

Support

- "Configuring wlan0 with DHCP" can sometimes stick. Reboot your wireless access point then reboot the Pi to clear the problem
- In the event of an issue, please check you have the latest release, failing that [Report Issues](https://github.com/unclehowell/datro/issues «Report Issues»)

Tips

- If you're accessing the dashboard from a mobile device (preferably using Chrome web browser) it's recommended you save the page to your devices homescreen, so that you can launch your HotspotBnB Dashboard in the same way you do other apps on your mobile devices. Locally this will work, but to access the Raspberry Pi remotely you will need to install an application such as Dataplicity (currently being loaded to HotspotBnB's App Store).

Notes

- This release is only a proof of concept of the autonomous self-build capabilities and a preview of the final solution (so no apps can actually be installed yet). For a disk image with apps pre-installed, please download [HotspotBnB v0.0.1-rc.8](https://mega.nz/#!ZCAziaQb!P4r2FrkY0-bQnDqThiQkY0Da0ORtguYO2tCnO3CO_Ec «HotspotBnB v0.0.1-rc.8»)
- download each new release and repeat this initial installation process to experience the latest developments in near "real-time" until we introduce our Software/ Firmware Over the Air (OTA) updates/ upgrades.
- tested and working on all models of the raspberry pi.
- Users will normally be prompted to accept the terms of the cryptocurrency mining when accessing the dashboard for the first time - an optional and opt-in feature. However this "JSECoin" feature is still being integrated into HotspotBnB. (If users don't agree and accept the cryptocurrency mining, the banner just remains on the dashboard. We owe no obligation not to inhibit the user experience in this way if they aren't willing to participate in a fair exchange e.g. our software solution for access to your network devices redundant processing power)

1.4 Installation Guide

1.5 General Usage

1.5.1 What is HotspotBnB?

The HotspotBnB Operating System (HotspotBnB) is a Free & Open-Source Linux-Based Software, designed to make any Single Board Computer a Plug & Play **Smart Smart Home Hotspot** with the unique capability of making internet Freer and/or completely free for the household in which it operates. The solution also features some great open source and free apps for the end-users e.g. IPTV/ Media Center, IPCCTV DVR, IoT Smart Home Control, Vehicle Tracking and Energy Monitoring - All autonomously installed and configured during initial installation, which is also autonomous. HotspotBnB simply copies onto a Micro SD card, inserts into any Single Board Computer connected to the internet and within minutes can be used, enjoyed and benefitted from.

1.5.2 Disclaimer

Keep in mind that although I am a professional engineer with extensive background experience and education, this is the first product of this magnitude I have attempted to develop, the work is ongoing and as of 2018 I am still in the early phases and some time away from a final solution. There is much I have yet to learnt about best practices for Documenting, Open Source Code & version Control and Systems Integration of the various technologies included in this new Operating System. There are industry standard methodologies this new Operating System is yet to adhear to - I remain humble and open to suggestions at all levels.

Everything you find here at this stage is without waranty and I accept not responsible for any inconveniences or issues that might occur as a result of use of this new Operating System: HotspotBnB. As time goes on I can only assure you that less Single Board Computers and Memory Sticks become damaged and/or "bricked" by HotspotBnB. Fortunately both are low cost hardware and HotspotBnB is free, so it's feasible fun and promising technology right now, to say the least.

1.5.3 Languages

The primary language of HotspotBnB will be English. Secondary languages will be introduced using translators which will use the English literature as the primary source of information.

1.6 Device Upkeep

1.6.1 hyperlink

Hyperlink here,

1.6.2 command lines

like this: `192.168.0.x`, `10.0.0.14x` or

Enough of networking for now. We'll set a proper network configuration later in this guide, but first some *musthaves*.

text block

```
passwd  # change root password to something important
rm -rf /etc/localtime  # dont care about this
ln -s /usr/share/zoneinfo/Europe/Prague /etc/localtime  # set appropriate timezone
echo "my_raspberry" >  /etc/hostname  # set name of your RPi

useradd -m -aG wheel -s /usr/bin/bash common_user #
groupadd webdata  # for sharing
useradd -M -aG webdata -s /usr/bin/false nginx
usermod -aG webdata common_user

visudo  # uncomment this line:  %wheel ALL=(ALL) ALL

pacman -Syu
```

bold text

- bullet
- point

1.7 Preferences

1.7.1 hyperlink

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bold text

- bullet
- point

1.8 Integration

1.8.1 hyperlink

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bold text

- bullet
- point

1.9 Upgrading

The term "Upgrade" is a term reserved for an alteration made to the software build itself, in which case an increase to the second but last digit is made to reflect this e.g. `0.X.0`. An Upgrade will more than likely require the user to re-download and install the software. The exception to this rule is in the case of major updates which can change the user experience so dramatically we mark the occaSiôn by changing the second but one digit of the version (as we do in the case of upgrades e.g. `0.X.0`)

1.10 Troubleshooting

1.10.1 hyperlink

Hyperlink here,

1.10.2 command lines

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bold text

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1.11 PDF's & Video's

1.11.1 hyperlink

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- bullet
- point

1.12 FAQ's and Other Resources

1.12.1 hyperlink

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1.13 Developers

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bold text

- bullet
- point

1.14 Housekeeping

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1.15.1 DATRO Consortium