



HABLON

**USER GROUP OF WIKIMEDIANS
IN THE PHILIPPINES**

Creating an Offline Wikipedia Using a Raspberry Pi

Presented during the MozillaPH Online Meetup
25 April 2020

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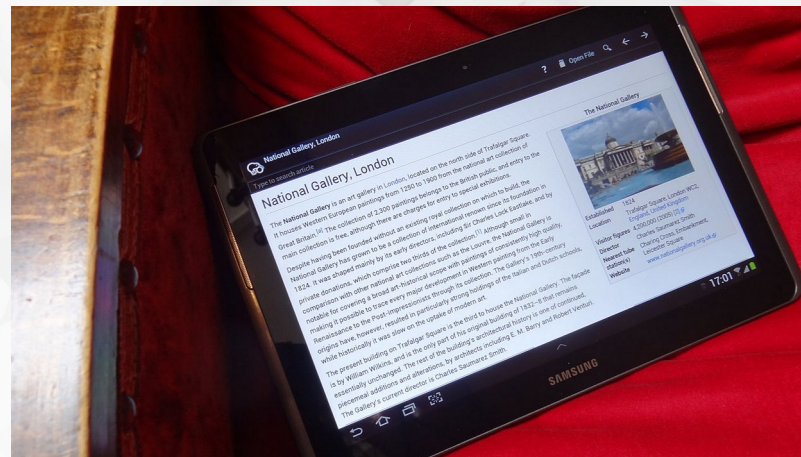
What is a Raspberry Pi?

The **Raspberry Pi** eventually became a gadget for DIY enthusiasts and hobbyists as well as a device that produces innovative projects such as home automation, weather station and NASA rover.



What is an Offline Wikipedia?

An **Offline Wikipedia** is a way of accessing Wikipedia articles without internet connection.



Internet-in-a-Box

Internet-in-a-Box is a wireless access point digital library, which is one way of accessing an Offline Wikipedia. Its hardware may consist of a Raspberry Pi or a refurbished laptop or PC.



Internet-in-a-Box

Aside from Wikipedia, **Internet-in-a-Box** contains modules, which may be pre-installed or user-selected, such as Khan Academy lite, OpenStreetMap, Moodle, Owncloud, PhET and TED Talks.



Internet-in-a-Box

Internet-in-a-Box has been used in schools, libraries, hospitals and medical clinics in various places in the world.



How to make an Internet-in-a-Box (IIAB)

Ingredients:

- Raspberry Pi (Zero, 2, 3 or 4)
- microSD card (32 GB or higher recommended)
- Power supply with cable connector (models up to RPi 3 requires 2.5A microUSB while RPi 4 requires 3A USB-C connector; all models require 5.1V supply; optionally, you can connect the RPi to a power bank meeting the supply requirements)
- A Mac or PC (for downloading the IIAB image)
- balenaEtcher (a software to flash IIAB image to SD card; you may need an SD Card adapter to insert the microSD card to your PC or Mac.)
- Internet connection through Ethernet or wireless (to initially download content for the IIAB)
- Optional: External storage (for extra content)
- Optional: HDMI Display (for displaying output from the RPi but it can be headless and the content can be maintained through a browser accessing the IIAB)
- Optional: Casing



How to make an Internet-in-a-Box (IIAB)

Step 1:

You can either install IIAB from scratch or from a pre-installed image of IIAB.

For doing from scratch, follow instructions here:
<https://github.com/iiab/iiab/wiki/IIAB-Installation#do-everything-from-scratch>

In this presentation, we are going to concentrate on the pre-installed IIAB images, which can be downloaded here:

<http://download.iiab.io/6.2/rpi/>



How to make an Internet-in-a-Box (IIAB)

Step 2:

After downloading the IIAB from your PC or Mac, use balenaEtcher to flash IIAB to the microSD card.

You can download balenaEtcher here:

<https://www.balena.io/etcher/>



How to make an Internet-in-a-Box (IIAB)

Step 3:

Insert the flashed microSD card containing the IIAB to your Raspberry Pi.

Step 4:

Connect the Raspberry Pi to a power source.



How to make an Internet-in-a-Box (IIAB)

Step 5:

From a client device (i.e. PC, Mac or smartphone), connect to IIAB Wi-Fi hotspot named “Internet in a Box.”

Step 6:

Open your browser such as Mozilla Firefox and type this in the address bar: `http://box.lan`

This is the home page of the IIAB where you can find the pre-installed content. You may want to add more modules. The succeeding steps show how to do this.

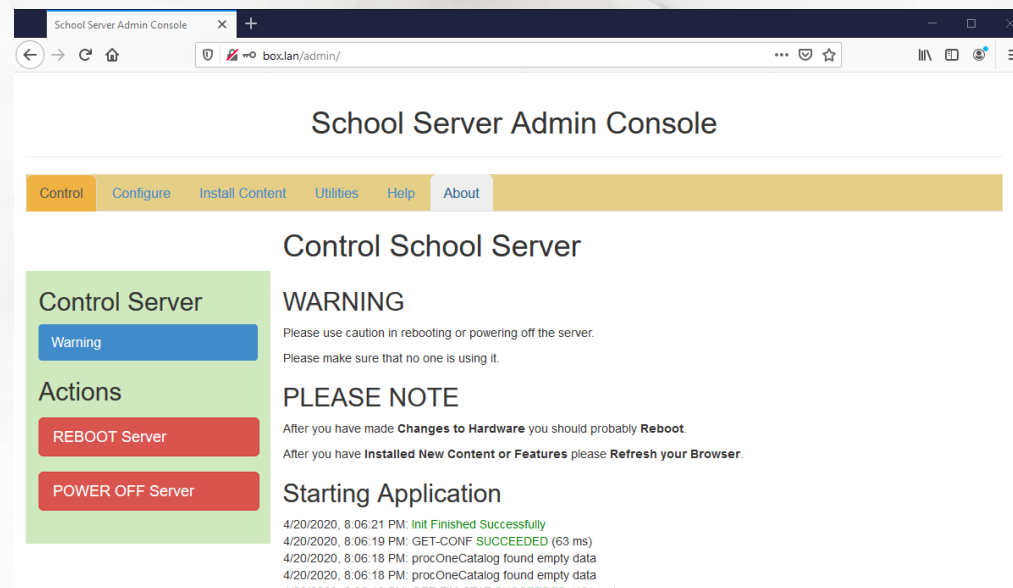


How to make an Internet-in-a-Box (IIAB)

Step 7:

Go to the admin page (<http://box.lan/admin>) and enter credentials when prompted.

The default username is `xsce-admin` and the password is `g0adm1n`.

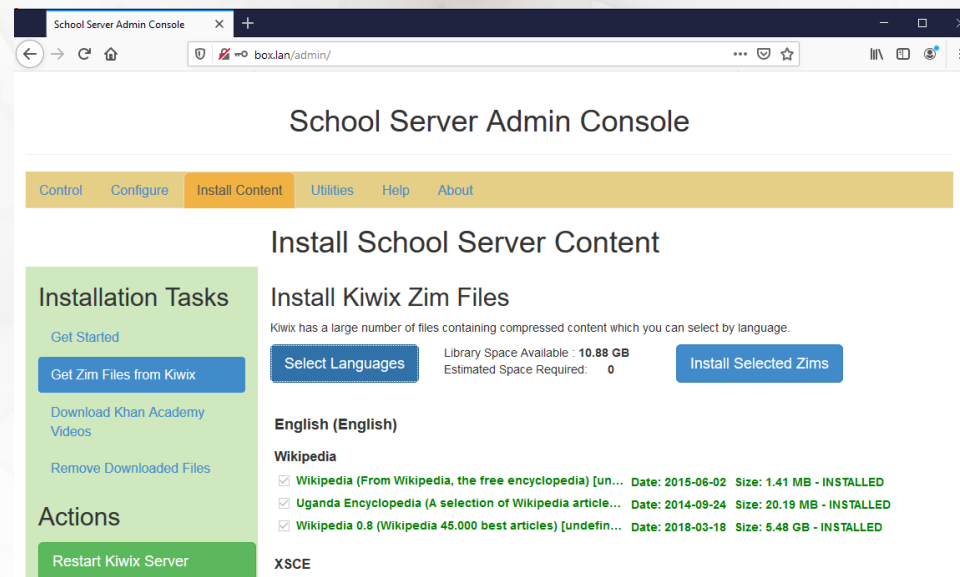


How to make an Internet-in-a-Box (IIAB)

Step 8:

Go to Install Content > Get Zim Files from Kiwix.

To download IIAB content such as Wikipedia, make sure that your IIAB is connected to the internet via Ethernet or wireless.



How to make an Internet-in-a-Box (IIAB)

Step 9:

Choose a ZIM file from the list and then click Install Selected Zims. Make sure that the size of the ZIM file fits to your remaining storage.

Step 10:

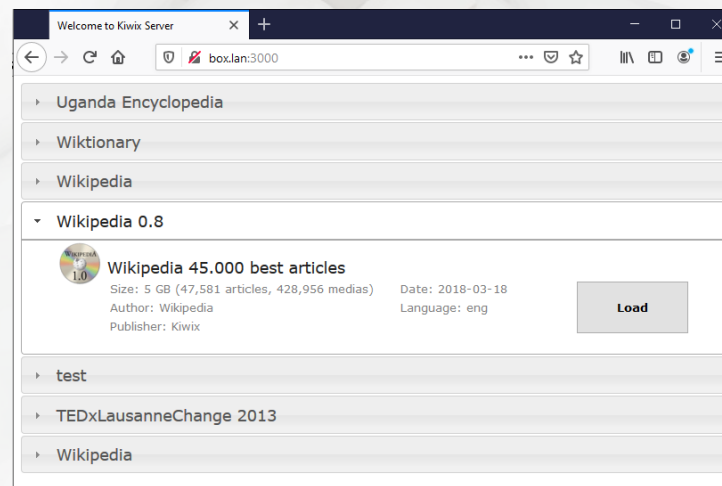
You can check the status of the installation by going to Installation > Display Job Status. Take note that downloading a ZIM file may take a very long time and may fail. You may need to restart your installation if that happens.



How to make an Internet-in-a-Box (IIAB)

Step 11:

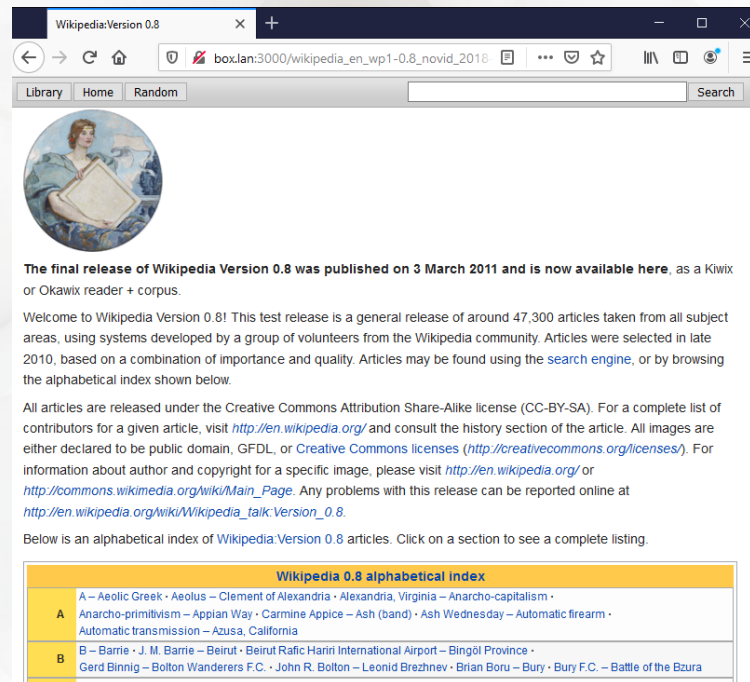
When you have successfully installed a ZIM file, you may optionally disconnect the IIAB to the internet and client devices can now go to <http://box.lan:3000> to browse the ZIM files. Then, choose a ZIM file and click Load.



How to make an Internet-in-a-Box (IIAB)

Step 12:

You can now explore and view Offline Wikipedia articles.





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Additional resources

- <https://en.wikipedia.org/wiki/Internet-in-a-Box>
- <https://meta.wikimedia.org/wiki/Internet-in-a-Box>
- <http://internet-in-a-box.org/>
- <https://github.com/iiab>
- <http://wiki.laptop.org/go/IIAB/FAQ>
- https://en.wikipedia.org/wiki/Wikipedia:Database_download





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