

Instruction Manual for Teacher in a Box

(KOLIBRI v1.4.0)

Rotary
e-Club of
Change Makers



**Teacher
in a Box**

www.teacherinabox.org.au

This deployment undertaken by:

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Short List for Experienced Users:

Setting up the TIB server:

- Plug in the **Wi-fi router** (*if you wish to provide Wi-fi access, otherwise there is no need*)
- Turn on the computer
- Password: **PasswOrd21**
- Open Browser (Firefox)
- If MENU screen does not appear automatically click on the Home button or type **127.0.0.1** in the address line to go to the home screen
- **Shut down** by clicking on the icon in **top right-hand corner** and following the links

If the clock screen-saver appears then press any key to go to the login screen

Setting up client devices:

- Go into Settings on the device – select **Wi-Fi = K4L**
- Password: **12345678**
- Open Browser
- Type: **192.168.0.10** in the address line
(**iPhone** users should type `http://192.168.0.10`)

Note: All modules should work on computers that have the free Adobe apps installed (Adobe Reader and Adobe Flash Player) though there may be compatible issues with some modules on other devices. We use Firefox as our web browser, though other browsers should work just as well.

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1 Introduction

Over the past few years, the "online learning revolution" has generated a lot of excitement and the Covid lockdown caused an even greater focus. Organizations, such as [Khan Academy](#), were founded with the mission to making free learning accessible for everyone, yet one of the greatest barriers is that an estimated 4.5 billion people still lack Internet access for geographical or economic reasons. Interestingly, research has shown that students in developing countries with access to the internet are doing worse in national exams than those that don't. No doubt probably due to the distractions of social media.

1.1 About the Foundation of Learning Equality

The Foundation for Learning Equality, a not-for-profit organisation, was started up by a group of university students in San Diego, USA, to explore solutions for distributing and hosting Open Educational Resources via low-bandwidth and offline channels.

The result is an open-source platform for viewing and interacting with [Khan Academy](#) videos and exercises. It has the look and feel of learning on-line but does not need internet access. Students can connect to the Teacher in a Box server from within the classroom, on a tablet, laptop or desktop computer.

The Foundation for Learning Equality has developed the a new platform [Kolibri](#), which has added to the very impressive list of functions already available.

1.2 About World Possible

Another amazing not-for-profit organisation, *World Possible* developed the RACHEL server (Remote Area Computer Hotspot for Education and Learning), which works in a similar way to our Teacher in a Box servers. As part of their project they have gathered an enormous amount of open licence educational content and made it freely available to all. *World Possible* is the other major content provider for our Teacher in a Box (RACHEL) build.

1.3 About Computers 4 Learning

Computers 4 Learning Inc. (C4L) is a project of the Rotary Club of Nundah. It is a voluntary organisation located in Brisbane Australia whose business is refurbishing donated computers and selling them at a very cheap price to disadvantaged locals and to not-for-profit organisations.

It was volunteers at C4L who developed the first Teacher in a Box server with the view of adding value to the services they already offered. As the Teacher in a Box servers gained momentum it became necessary to set it up as a project in its own right.

2 About Teacher in a Box

Teacher in a Box was taken up by firstly, the Rotary Club of Brisbane Planetarium which has been re-named to the Rotary Club of Paddington, Qld and later the Rotary e-Club of Change Makers.

We are interested in giving people access to free education. The materials available on our “Standard Build” are offered at no cost through our website and for those people who are unable to access the internet, for whatever reason, there is the offline option of a Teacher in a Box server. These servers are repurposed computers that create a Local Area Network (LAN) and allow many people to access the tens of thousands of books, videos, worksheets and other educational materials via any wi-fi enabled device such as laptops, tablets and even smart phones. Additional Apps may be added to the standard build depending on the region of deployment. **No data costs are incurred as users are not accessing the internet.**

By building our servers out of a laptop computer, we have overcome issues identified with the Raspberry Pi version that we first trialed. The main benefit of the laptop server version is that it has a screen, keyboard, hard disk drive and power fail device already built in. The other benefits are that it can be used as a standalone system as well as a Wi-Fi server and that its networks range covers a wide area.

If this is starting to all sound complicated don't worry... it's not... it is just the terminology that makes it sound that way. All of the hard work has been done for you..... just follow the directions and practice it until you feel comfortable!!

3 Downloadable Apps -

The Apps on the Teacher in a Box are all interactive with only a few exceptions:

- **MIT Scratch**
- **Rapid Typing and**
- **Solve's Dawn of Civilization**

MIT Scratch app allows you to download the app from the Teacher in a Box server and install on any computer that is operating on Linux, Mac or Windows. For other devices such as iPads, tablets and phones then you will have to download it from your usual Apps store. (MIT Scratch is also installed on Teacher in a Box servers. Click on the “Cat” icon on the left-hand side of the screen to open it up.)

Rapid Typing can also be downloaded to your computer from the Teacher in a Box server but is not suitable for other devices.

Dawn of Civilization is a game which enables you to learn English at your own pace. It can be downloaded onto your ANDROID phone from the Teacher in a Box server but it will need internet as part of the installation process.

4 How do I get training in using Teacher in a Box?

The TIB training video can be found online under the Resources tab on our website (www.teacherinabox.org.au). It goes for about 20 minutes and provides a step-by-step guide that is easy to follow as it assumes no technical knowledge. A copy of this video is also included on the Teacher in a Box servers to assist with local training.

You will also see a Welcome video. Play this to get a quick overview of what is on your Teacher in a Box server.

Nowadays it is a requirement that at least one person at each deployment site is a certified TIB trainer. Just take notes of the key points presented in the training video and contact us through our website to undertake a test online to qualify as certified TIB trainer.

5 Handy Tip for getting the most from your Teacher in a Box

The best way to find your way around the Teacher in a Box is to just go in and look but it will be best to prepare if you want to easily find those resources again in the future.

If you copy and paste the address for any items of interest into a document then they will be stored as hyperlinks and will enable you to go straight back to the article merely by clicking on the link.

For Teachers:

Suggest setting up a document with headings such as Subject, Year Level and Topic.

For others:

Suggest setting up a document with the headings:

- What am I am good at?
- What do I like doing? and
- What would I like to know more about?

Now go and make a short list under each heading and start searching

Short Cut keys on your keyboard

- Ctrl-C : This means “hold the Control key down and then press the letter C” and
- Alt-Tab : means “hold the Alt key down and then press the Tab key”. Got it??

Cutting and Pasting addresses into your document

1. Highlight the address at the top of the screen
2. Select Ctrl-C to copy the address into memory
3. Select Alt-Tab to toggle to your document
4. Place the cursor where you want the address copied in your document
5. Select Ctrl-V to paste the address into your document.

Now go ahead and build your document but don't forget to keep a backup copy on a USB flash drive... just in case!!.

6 Basic Components of a Teacher in a Box server

	<p>A laptop computer has been programmed to act as a server. This is a high-powered unit capable of supporting many, many users with Wi-Fi devices all at the same time and with a range of up to 100 metres with Line of Sight transmission.</p> <p>All of the files are stored on a 480 GB or larger, hard drive on the computer.</p>
	<p>The type of router you receive, powered or unpowered, will be determined by the requirements you gave when ordering. Your router will look like one of these. It will come to you configured to the motherboard of the Teacher in a Box computer to allow external devices to connect to it and access the files on it via Wi-Fi.</p>
	<p>Network cable is used to connect the Router to the laptop server via the ethernet port if it has one. If no ethernet port then it will be configured to connect wirelessly. Just place the router NEAR the TIB server.</p>
	<p>Router powered by USB connection cable to the computer (or, in the case of a powered router it will have a cable to plug into your power point instead)</p>

7 Setting up your Teacher in a Box server

Prior to switching on the computer it should be set up as follows:

- Use the network cable to connect the router to the ethernet port of the Teacher in a Box server. If there is no ethernet port then the router will be configured to connect wirelessly, just place the router near the TIB server and switch it on
- Power: The small routers can be powered through the USB port of the computer whereas the powered routers must be plugged into the electricity.
- Connect the TIB server to power and switch on.

8 Starting up a Teacher in a Box server

Note that screen images provided in this document are representative only as the screen designs change over time.

After plugging in the router, you may switch on the laptop.

IMPORTANT: Be patient: it may take a couple of minutes to boot up... there's a lot of work going on in there!!

Once the screen has reached the point where it displays the login screen for **Administrator**, the server has booted up and can now be accessed by Wi-Fi devices. Instructions on how to do this is covered in full later in this document.

You will need to login as Administrator if you want to use the server directly. You do this by clicking on the screen to get it to ask you for a password

Enter exactly as it appears here: **Passw0rd21** that is the number zero, not the letter "O".



If the computer has been left idle for a time it may go into **Lock Screen** mode. This displays as an orange coloured screen with a clock on the front. Just hit Enter (or Return) to get to the login screen.

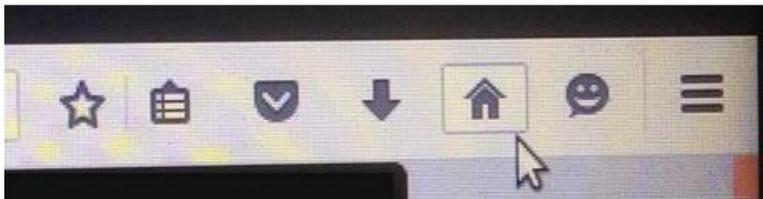
9 Opening the Web Browser on your Teacher in a Box server

Once the password has been entered this page will open.

Select the Firefox icon as shown, and the menu page will display.



If, for some reason, it does not automatically go straight to the MENU home screen, simply click on the HOME icon (see below) to go to the home page. This icon can be used at any time you get lost or just want to go back to the main screen.



10 Setting up a basic Wi-Fi Network

The diagram on the following page is showing the Teacher in a Box server, with its little blue and white router, surrounded by several Wi-Fi devices (tablets and laptop computers). These devices could be accessing different books and videos on the Teacher in a Box server all at the same time wirelessly via the router... note that the files on the server are not copied or downloaded to these devices. They just “look” at the files on the server. (MIT Scratch and Kolibri components do, however provide a download option which is suitable for computers and this is covered separately in a later section)

11 Connecting up other Devices via Wi-Fi

Once modern wireless devices have been correctly configured they should automatically access the RACHEL files via Wi-Fi.

This can be done by following these instructions:

11.1 Laptop Computer

- Expand the toolbar on the bottom right hand side of the computer and select the network icon which will probably look something like this: 
- Select the Router Name (**K4L**) and enter the Router Password: **12345678**

11.2 iPhone or iPad

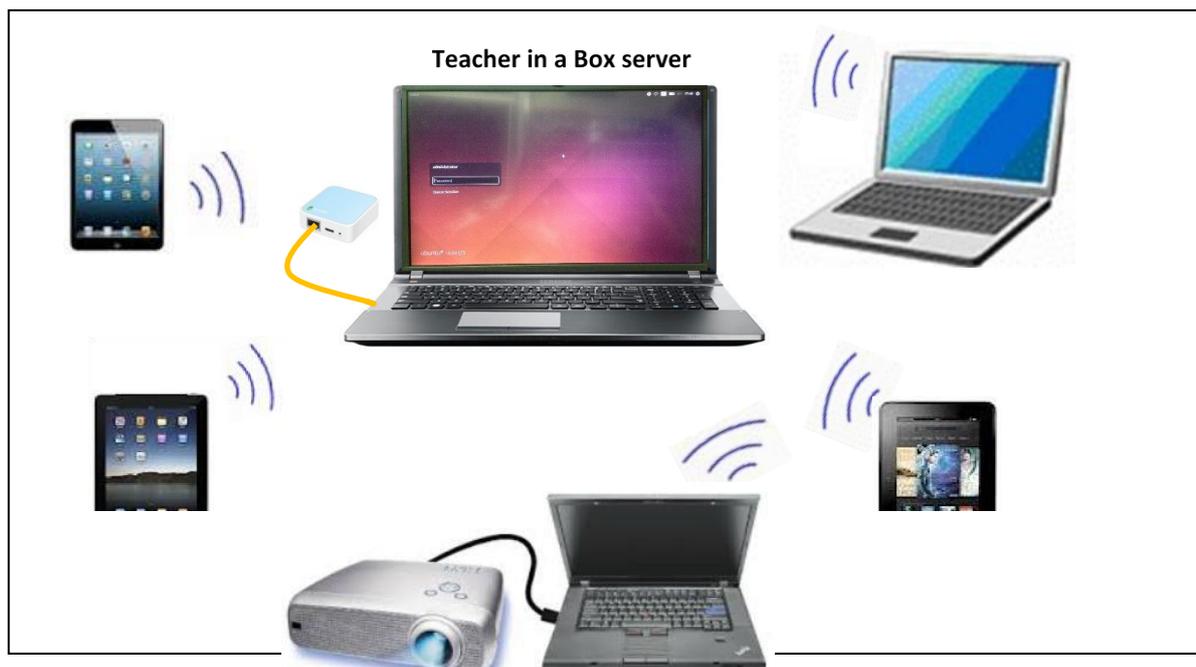
- Go into “Settings” on the wireless device and select Wi-Fi
- Select the Router Name (K4L) and enter the Router Password: 12345678

11.3 Tablet

- These will all vary slightly in the way they look but they will follow a similar process to the iPad
- The settings icon usually looks a bit like a **wheel cog**

After the Router has been selected it will take a couple of minutes to established the network connection **so be patient**.

Once you’ve done this, all the hard work is done... the device can automatically link to the Teacher in a Box server whenever the server is switched on and the user will, from then on, be able to access the files through the web browser. Some wi-fi devices may need you to re-select K4L each time you want to start up a new session.

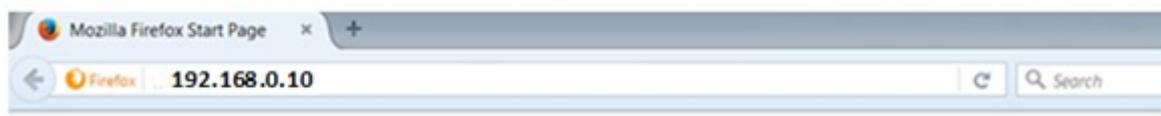


12 Opening the Web Browser on your devices

The files can be accessed using your standard **web browser** and these browsers will work with most files on Teacher in a Box however as devices are upgraded they start losing backward compatibility. For example, iPhones no longer support “Flash”. We have found that downloading and installing FireFox currently has fewer compatibility issues and the web browser *Dolphin* will support Flash and has a previously been downloaded onto tablets sourced through the Teacher in a Box project.

Open the appropriate **web browser on the external Wi-Fi device** and enter **192.168.0.10** into the address line as per below.

(You MAY need to turn mobile Data to OFF on phones so that the device doesn’t try to access the internet. Don’t forget to turn it back on again later.)



Now, sit down and brace yourself because once you select either RACHEL or KOLIBRI.... over 10s of 1000s of instructional videos and books at your fingertips. Enjoy!!

To make it easier to access in the future, you should save this address in your favourites or store it as an “App” on your home screen, and when you find resources that you want to go back to just add these addresses to your Favourites too.

IMPORTANT NOTE: PLEASE DO NOT TRY TO LOGIN WITH YOUR Wi-Fi DEVICE UNTIL THE TEACHER IN A BOX (TIB) SERVER HAS REACHED THE LOGIN SCREEN.

If a Wi-Fi device tries to access the TIB server before it is fully booted up then the Wi-Fi device may get locked out. It will appear like it is connected to the TIB server but it will not find the TIB site. If this happens then try connecting to another network to disengage from K4L, try turning Wi-Fi on your device OFF and then ON again. If this doesn’t work then you will need to close down your device fully and start again.

13 Setting up a more advanced Network

The basic set up listed above will be appropriate for most deployments however in cases where there are existing desktop computers or in cases where the signal needs to be carried over a larger area then additional equipment may be needed such as a Wi-Fi USB dongle or a range extender, a switch or possibly other equipment.

You will find some information sheets on our Teacher in a Box web page that may assist in gathering the necessary information to determine the requirements.

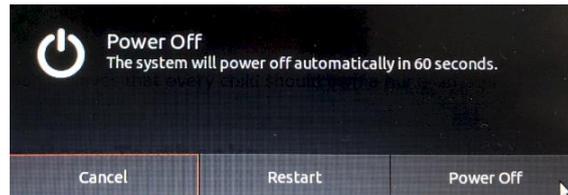
www.teacherinabox.org.au/

14 Closing Down the Teacher in a Box server

- Select the upside-down triangle in the top right-hand corner to open the menu



- Select the Shut Down icon  to bring up the next menu
- Click on the Power Off button.



After the computer has been left idle for a time it may go into Lock Screen mode. This displays as an orange coloured screen with a clock on the front. In this mode it is OK to just hold down the Power button on the computer to shut it down.

15 Frequently Asked Questions

Question	Answer
Why doesn't my screen look identical to the training video or the photos in this manual?	Unfortunately, this will happen. We have no control over the software companies changing the look and feel of their product. While it may look a bit different it should function the same.
What is the maximum number of devices we can use on the Teacher in a Box server?	More than enough, probably. A Teacher in a Box server, as supplied, will support up to 100 users at the same time. If necessary, a wider audience can be reached by upgrading the router. Suggest that you consult a local IT professional.
How far will the signal transmit?	Depends greatly on the environment but you can expect up to 100 metres with Line of Sight transmission. Walls and other barriers will reduce the distance. Windows are fine. It is possible to boost the signal using a Wi-Fi Range Extender.
How much space do the files use?	Our Teacher in a Box servers are now going out with 480+GB (or 1TB) hard drives to cater for the RACHEL and Kolibri content
What happens if something goes wrong?	Hardware is selected carefully to try to ensure reliability, but it is not guaranteed. It is the responsibility of each school or learning centre to manage their own support locally. Remote support may be possible if your technician needs assistance.
How do we get a Teacher in a Box server at another school or centre??	If an application was to be made <u>through your local Rotary Club</u> , then we could possibly assist to find another Rotary Club or other organisation for them to partner with.
What happens if I want to go back to the main page??	<p>Simply click on the HOME icon on the toolbar located in the top right hand corner to go back to the home page.</p>  <p>To go back to the Kolibri main page you select the Channels icon.</p> 
What if we already have computers and tablets that need to be able to access Teacher in a Box?	If the computers are to be used in the same room as the Teacher in a Box server or close by, and they are Wi-Fi enabled, then "no problems" ... simply follow the instructions provided under the section, "Connecting up other Devices via Wi-Fi". Otherwise, follow the instructions provided under the section "Connecting up a more advanced Network".

<p>We have the internet on here. How do I know that this system is NOT using up my Internet allowance?</p>	<p>The little white box attached to the Teacher in a Box server transmits to the devices, it does not receive info from the internet. If your Wi-Fi devices are connecting to K4L then you know that you are accessing the information stored on the Teacher in a Box server and not from the internet.</p>
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16 Trouble Shooting

Problem	Comment
<p>My iPhone no longer opens TIB.</p>	<p>An iPhone upgrade introduced new security measures that make it difficult to connect to the TIB. You will now need to TYPE IN http://192.168.0.10 into the address bar. Do not use history, short cut etc, as the iPhone may default it to the secure form https:// which is incompatible with TIB. If you are still having difficulties then try using a different internet browser.</p>
<p>My Wi-Fi device cannot find the K4L network belonging to the Teacher in a Box server.</p>	<p>Assuming that your device has already been set up correctly, as shown in the instructions, AND that you are located not too far away from the server.</p> <p>Firstly, check whether others can access the Teacher in a Box server OK. If no-one can then the problem is at the server end and the most likely cause is that the Router leads are not fully inserted into the TIB server.</p> <p>Just you? The most likely reason is that you tried to access the Teacher in a Box server before it had fully booted up to the log-in screen and it has locked your device. Try connecting to another network to disengage from K4L before coming back and logging on again. You may need to switch off your device and start it up again.</p>
<p>Help!! There is no network cable in with the router</p>	<p>You will probably find that there is no ethernet port in your TIB server either. The router has been configured to interact wirelessly with the TIB server. No cable needed.</p>
<p>My TIB server takes a really long time to start up</p>	<p>In later versions the loading and indexing of the files is done during start-up. The good news is that everything will be super responsive when it does finally boot up.</p>
<p>The Team Viewer application displayed when I logged into TIB.</p>	<p>A nuisance but not a problem, just close it by clicking on the little X in the top right-hand corner of the Team Viewer window and proceed as usual.</p>

When I tried to open the Firefox browser on the TIB server a screen popped up asking me whether I want to “Start New Session” or “Restore Session”. Which should I select?	Starting a new session will open up the RACHEL page. If you accidentally select the Restore Session instead then just type 127.0.0.1 in the address line to get you back.
A message has appeared on the page asking me whether I want to refresh Firefox and make it like new.	The correct answer is No as it will reset the default values and no longer open automatically to RACHEL. Just close the message or ignore it
My TIB server is asking me whether I want to update files. What should I do?	No, just cancel. The server is working on the assumption that you are connected to the internet. TIB is not designed for internet use.
I have opened the Firefox browser but another screen opened and not the RACHEL modules.	You may have accidentally reset the default values. Just type this address in the browser: http://127.0.0.1 You can reset this as the default by opening the Firefox menu. The ☰ menu button is located in the top right hand corner of the screen. Then select Settings / Home and either click on “Use Current Page” or entering the browser address above as a Custom URL. You can test it by closing the browser and on opening, it should go straight to the RACHEL page.
My phone can’t find the RACHEL modules because it keeps on trying to access the internet.	Some devices automatically assume internet. Try turning off Mobile Data on your device and try again. If still unsuccessful turn off your device and turn it back on again. (Don’t forget to turn on your Mobile Data back on after you have finished or your phone wont function properly). Once you have successfully got into TIB once your device should remember and be OK in the future.
I am accessing the files remotely using my computer but some programs such as Book Dash Books don’t open properly.	You will need to install Adobe Reader to read the PDF files on your computer and other devices. It is available free from the Adobe web site for your computer https://get.adobe.com/uk/reader/ ... or on the App store for your hand devices.
I am unable to open some of the worksheets and books on my device.	Your device needs a PDF viewer to be installed. If it is already installed then check to ensure that your browser is not set up to “download” instead of “open” PDF documents.
Some videos in TIB are not working.	Flash player has been replaced by HTML 5 and videos made for flash player are no longer being supported by the IT industry. We have been actively seeking updates for these but a few may remain.
Some of the Search functions are not working on my iPad.	This is a known issue with Apple devices. No solution found as yet.
Our new TIB doesn’t have all of the apps that we had on our old one	Apps will usually only be dropped when there are compatibility issues or if copyright concerns have been identified. Contact us via the website to discuss.

Whatever the problem.

Be patient.... especially at start-up!! Some files, such as Career Girls, and the Wiki files are HUGE and take a lot of loading. When all else fails... shut down the TIB... count to 10 slowly ... and then turn it back on again.