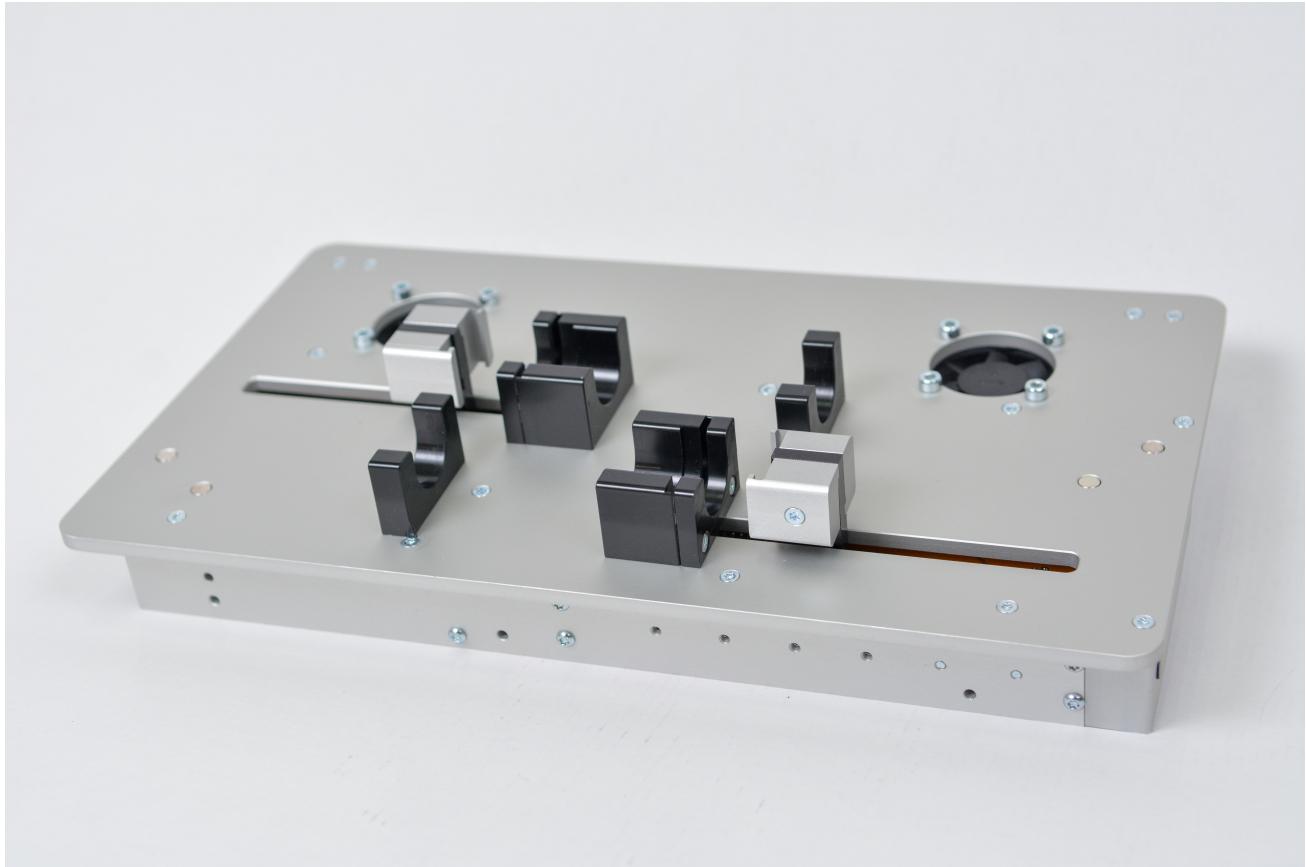


# New Harvest Tray Incubator User Manual

User instructions manual for the Incubator Tray, developed for the New Harvest organisation. Describes usage via control panel, web interface and mobile app.



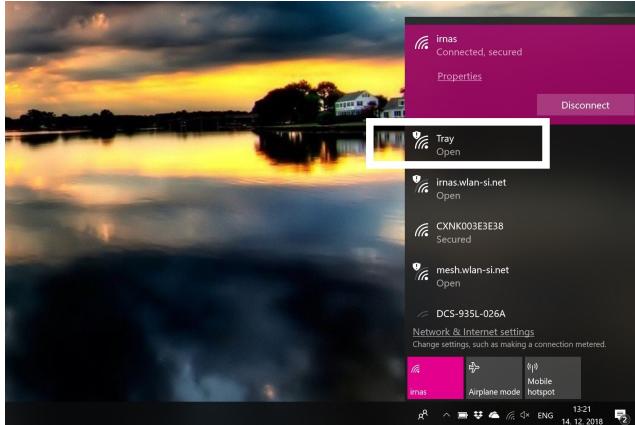
**Step 1:** Turn the incubator on to power the tray or connect it to power via USB cable. You should see an welcome screen pop-up.



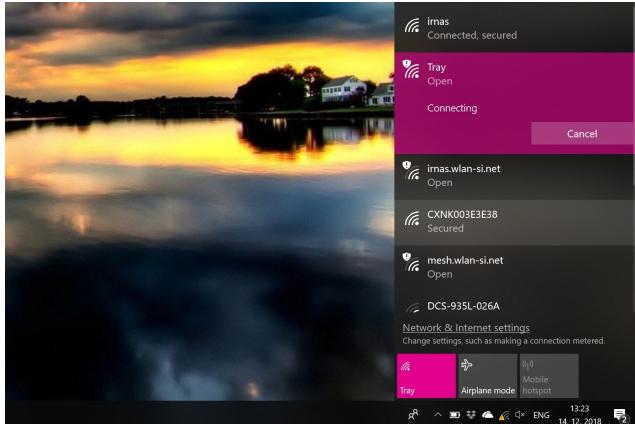
**Step 2:** On first usage, WiFi connection must be set-up. If there are no pre-set connections, tray will provide a temporal local WiFi spot.



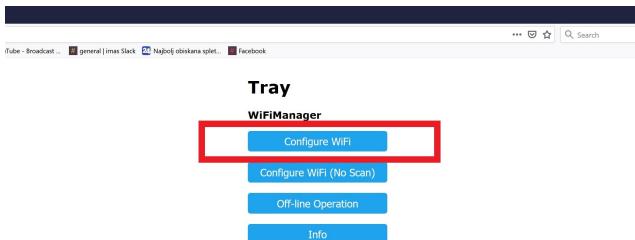
**Step 3:** You should be able to observe tray local WiFi on your computer or mobile phone.



**Step 4:** Connect to tray network using credentials on the screen.



**Step 5:** A WiFi manager should automatically open in your browser. This may take a few minutes.

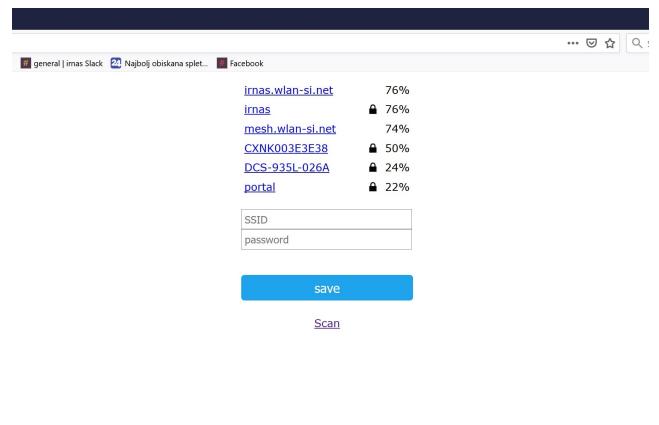


**Step 6:** Choose one of the following options:

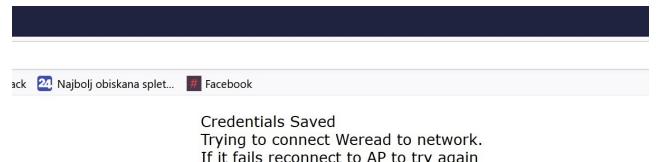
- **Configure WiFi:** standard WiFi configuration. It will scan your network for available connections. **RECOMMENDED!**
- **Configure WiFi (No Scan):** you will need to input your WiFi data - use if desired connection doesn't pop-up at the scan option.
- **Off-Line Operation:** operation without internet access. Keep in mind that tray mobile app will not function!

If the window doesn't pop-up after a few minutes, or you have trouble at some other stage of the set-up, rebooting your tray is recommended.

**Step 7:** Select "Configure WiFi" option, locate desired WiFi and enter the password. Save.



**Step 8:** Confirmation window will be displayed. Your tray will automatically reboot.



**Step 9:** Upon reboot, tray will automatically connect to chosen network.



**Step 10:** Tray will automatically go to the last used state. To access operation modes and settings press "**SET**" button.



**Operation A:** First menu screen is "**OPERATION**". If confirming it with "**OK**" button, automatic flow control will start.



**Operation B:** During the automatic flow control, selected flow rate and current temperature will be displayed.



**Set flow A:** Second menu screen is "**SET FLOW**". If confirming it with "**OK**" button, automatic flow rate can be set.



**Set flow B:** Set the flow rate with "**UP**" and "**DOWN**" buttons, confirm new rate with "**OK**".





Change syringe A: Third menu screen is "**CHANGE SYRINGE**". If confirming it, syringes will move to changing position.



Change syringe B: Approximate time to reaching "changing position" will be displayed on the screen during this mode.



Manual mode A: Fourth menu screen is "**Manual mode**". If confirming it with "**OK**", you can manually control syringes.



Manual mode B: Set manual movement flow rate will be displayed on the screen along with movement mode.



Manual mode C: By default both syringes are moved. To change manual movement mode, press "**SET**" button again.



Manual mode D: By pressing "**SET**" button, you can navigate between SYRINGE 1, 2 and BOTH modes.



Manual mode E: Choose the mode with "OK" button.



Manual mode F: With confirming last option "EXIT", you will exit the manual mode.



Stop A: The final, fifth menu screen is "**Stop**". If confirming it with "OK", you can terminate any syringe motion.



Stop B: Tray will return to the "**STANDBY**" state.





## Web Interface

Each tray can also be controlled via web interface, accessible when connected to the same network as the tray.

The screenshot shows two main sections of the web interface:

- FLOW RATE**: Displays current flow rate (0.00 mL/min), set flow rate (2.00 mL/min), and a "Submit" button. It also shows sensor readings (Temperature: 37.00 °C).
- MANUAL MOVE**: Allows manual flow regulation for both syringes. It shows current manual flow (9.99 mL/min) and provides UP, DOWN, and STOP buttons for each syringe.

At the top right, there are buttons for "Settings" and "Reset WiFi".

**ACCESS:** After the tray set-up, enter the IP address, located at the top of the screen, in the browser.



**REGULATION:** To start flow regulation press "**REGULATE**" button. To stop it, press "**STOP**".

**CHANGE SYRINGE:** To move syringes in the change position press "**CHANGE SYRINGE**" button. To stop it, press "**STOP CHANGE**".

**FLOW:** Current flow rate will be displayed in the "**Current flow rate**" window. Set regulation flow rate will be displayed in the "**Set flow rate**" window. To change flow rate enter new value in the "**New flow rate**" and press "**SUBMIT**" button.

**MANUAL MOVE:** To start manual flow regulation press "**START**" button under Manual tab. Regulation and syringe change will stop automatically. To exit manual mode, press "**STOP**" button under Manual tab.

**MANUAL MOVE SYRINGES:** After choosing manual move mode you can move either first, second or both syringes, using provided UP, DOWN and STOP buttons.

**MANUAL FLOW:** Manual flow rate will be displayed in the "**Set manual flow**" window. To change manual flow rate enter new value in the "**New manual flow**" and press "**SUBMIT**" button.

**SETTINGS:** To change any settings press "**SETTINGS**" button. New window will pop-up - UNDER CONSTRUCTION. To change anything, enter new value in the window and press "**SAVE**" button.



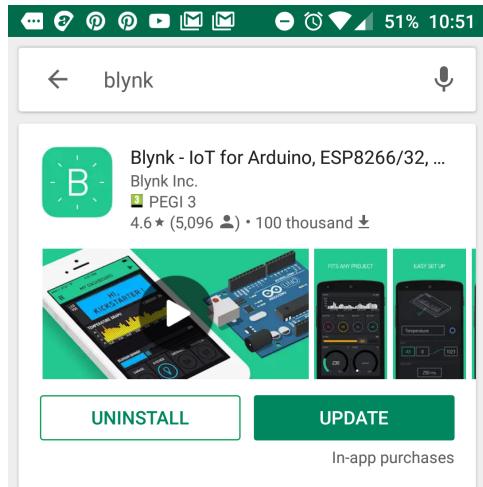
**RESET WIFI:** To reset WiFi settings press "**Reset WiFi**" button. You will need to repeat tray set-up.



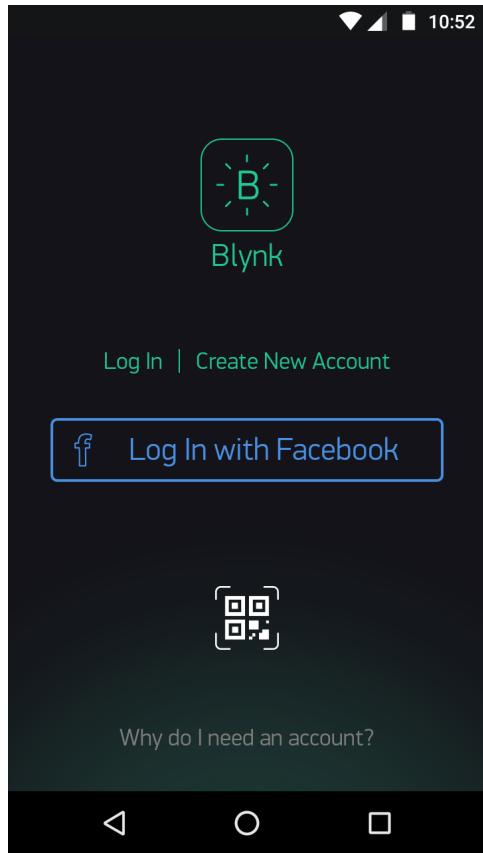
## Mobile App

Each tray can be controlled via Blynk mobile app.

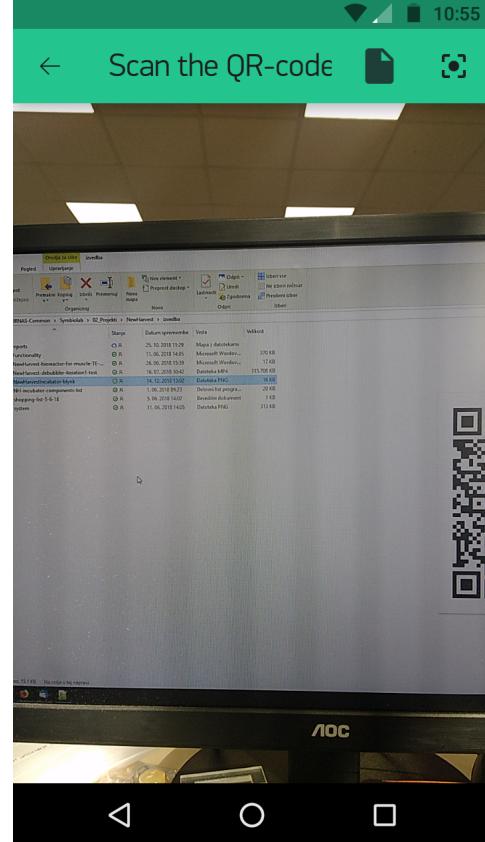
Step 1: Get the Blynk app in your app store, i.e. Google Play Store.



Step 2: Run the app. Click on the QR code sign.



Step 3: Scan the provided QR code.

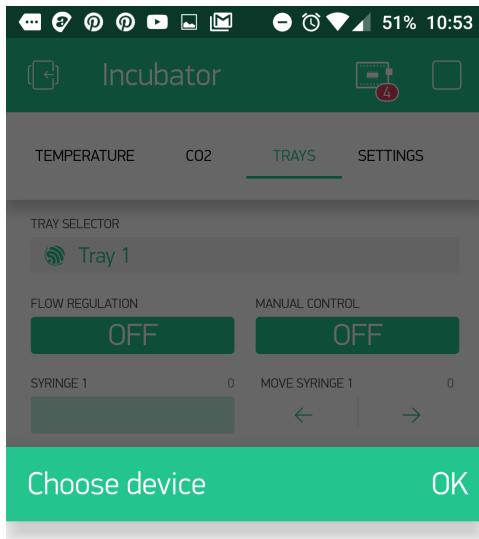


The code:

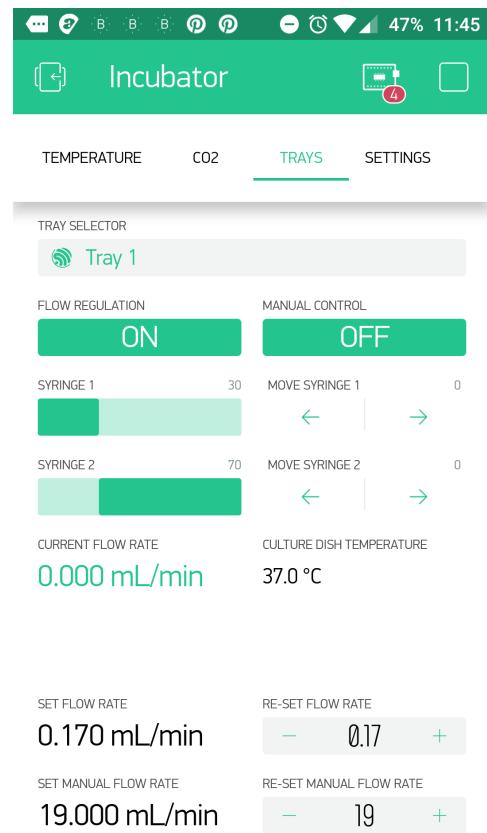




Step 4: Trays can be accessed under the TRAY tab. Select relevant tray in the Tray Selector.



#### OPERATION:



Incubator

- Tray 1
- Tray 2
- Tray 3
- Tray 4

OK

FLOW REGULATION: Turn it ON/OFF as displayed on the button.

MANUAL CONTROL: Turn it ON/OFF as displayed on the button. Move syringes with arrows assigned to each syringe.

SYRINGE POSITION: Displayed on the two sliders.

FLOW RATE: Regulation flow rate and manual flow rate can be adjusted by changing the respective value with + and - signs.