At first the USB flash drive power lines are directly connected to the Raspberry PI and the data lines are connected through the 2-channel relay module which is controlled by the raspberry PI.

At the second stage, a branch is taken from the USB flash drive to the 4-channel relay board controlled by the Raspberry PI which is connected to the Host machine.

The relaying mechanism is as follow:

1-When the USB device is attached to the USB slot the Raspberry PI opens the switch of the 2-channel relay module allowing the flow of data from the USB flash drive to the Raspberry PI

2-Further profiling and analysis is done onto the USB flash drive executing the USafeB functions

3-The resulting state is one of two based on whether the USB flash drive is flagged safe or malicious

-Safe case: The Raspberry PI closes the switch of the 2-channel relay board and opens the channel relay board allowing the data flow from USB device to the host machine while disabling the route of the USB flash drive -> Raspberry PI

-Malicious case: The raspberry PI blacklists the device and closes the switches of both relay modules disabling all routes of the USB flash device, disallowing further connectivity.