# Microsemi Timberwolf™ AVS Development Kit ZLK38AVS Quick Start Guide

1. This kit includes: - ZLE38AVS board
   - Plastic stand
   This kit requires additional hardware: - Raspberry Pi 3 + SD Card (≥8GB)
   - JBL Clip Portable speaker

2. Install the latest Raspbian image on the Raspberry Pi 3
   Notes: The following installation was tested with Raspbian Jessie (kernel 4.4.50)
   A VNC connection to the Pi is optional but recommended to limit the number of wires

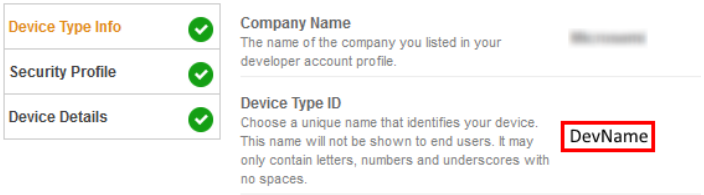
3. Assemble the kit

   - The speaker 3.5mm jack should be plugged into the ZLE38AVS board and set to max volume.

   - The 5V USB power should be plugged to the Raspberry Pi and it will back-power the ZLE38AVS board. A 2A power supply is recommended.

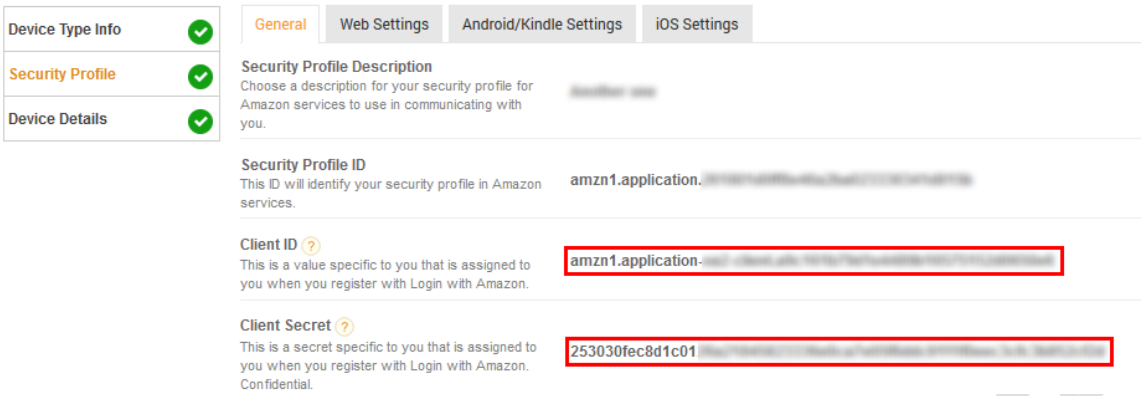
   - Additional cables may need to be connected to the Raspberry Pi (Ethernet if not using Wi-Fi, HDMI and peripherals if not using VNC)

4. Create or log to an Amazon developer account: http://developer.amazon.com
   During the installation detailed in step 5, you will be requested to enter the following Device ID (labeled Device Type ID below):

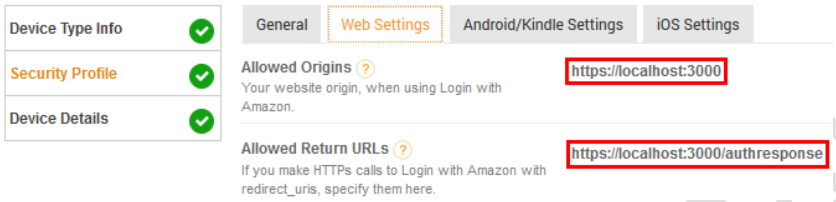





The Client ID and the Client Secret:




Ensure that the following URLs are correct:




5. Software installation steps:
   a. Open a console on the Raspberry Pi
   b. Clone the Microsemi ZLK38AVS GitHub repository on the Raspberry Pi
      ```
      git clone https://github.com/MicrosemiVoiceProcessing/ZLK38AVS
      ```
   c. CD into the above created folder and start the installation process
      ```
      make all
      ```
      Notes: The installation process will automatically download the requested package and compile them. Depending on your Internet speed, the installation may take from 30 minutes to an hour. Sometimes during the installation, you will be asked to enter the Amazon Device ID, Client ID and Client Secret described in step 4 and answer additional questions.
   d. Once the installation is complete, restart the Raspberry Pi

6. Alexa service startup:
   a. Open a console on the Raspberry Pi
   b. CD into the ZLK38AVS folder created at step 5 and start the Alexa service
      ```
      make start_alexa
      ```
      Note: It will open three terminal windows and an Alexa GUI
   c. A pop-up window will eventually prompt you to open a web browser in order to log into your Amazon Developer account. The web browser might tell you “Your connection is not private”, select Advanced and Proceed. Log in, then when the web page displays “device tokens ready”, close the web browser and click OK.
   d. Alexa is now ready, try: **Alexa, what time is it?**

7. Additional documentation is provided in the “docs/” folder:
   - Microsemi_ZLK38AVS_ProductBrief: Kit product brief
   - Microsemi_ZL38063_ProductBrief: Microphone Array ASR-assist Audio Processor description
   - Microsemi_ZLK38AVS_User_Guide: Detailed installation steps including creating an Amazon developer account