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The Robot Program Episode 012: Getting AdventureBot to Move

This lesson will demonstrate how to connect to and move the Revolution AdventureBot robot. Follow along with The Robot Program Episode 012: Getting AdventureBot to Move. At the end of this lesson, the reader will have learned how to connect to the robot using Wi-Fi, how to track color, access the the RoboScratch workspace for programming, and how to execute wheeled movement.

View the video episode here: <https://www.ez-robot.com/Tutorials/Lesson/83>

Last Updated: 5/29/2018

Professor E's Overview

This lesson demonstrated how to connect to **AdventureBot** for the first time.

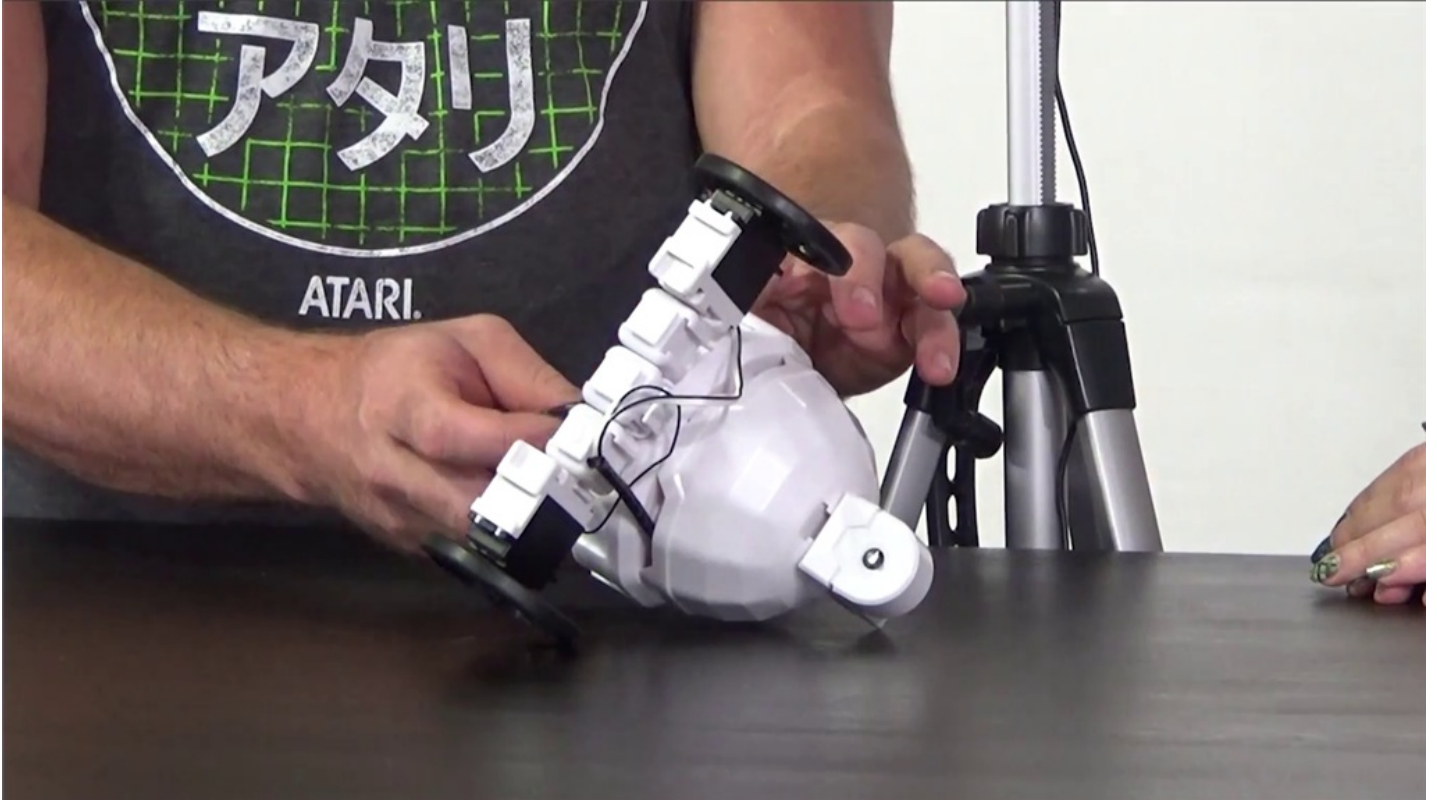
Remember to start with a fully charged robot. Load the **Example Project** for **AdventureBot** and connect to the robot using Wi-Fi.

AdventureBot is a wheeled robot. Use the arrow keys and sliders within the **Servo Movement Panel** to move the robot. Color tracking can be enabled using the **Camera** control. The **RoboScratch** workspace can be used to create custom programs. Remember to disconnect, power off, and charge the robot when finished.



Step 1

Learn how to connect to **AdventureBot** for the first time. Disconnect from the battery charger.



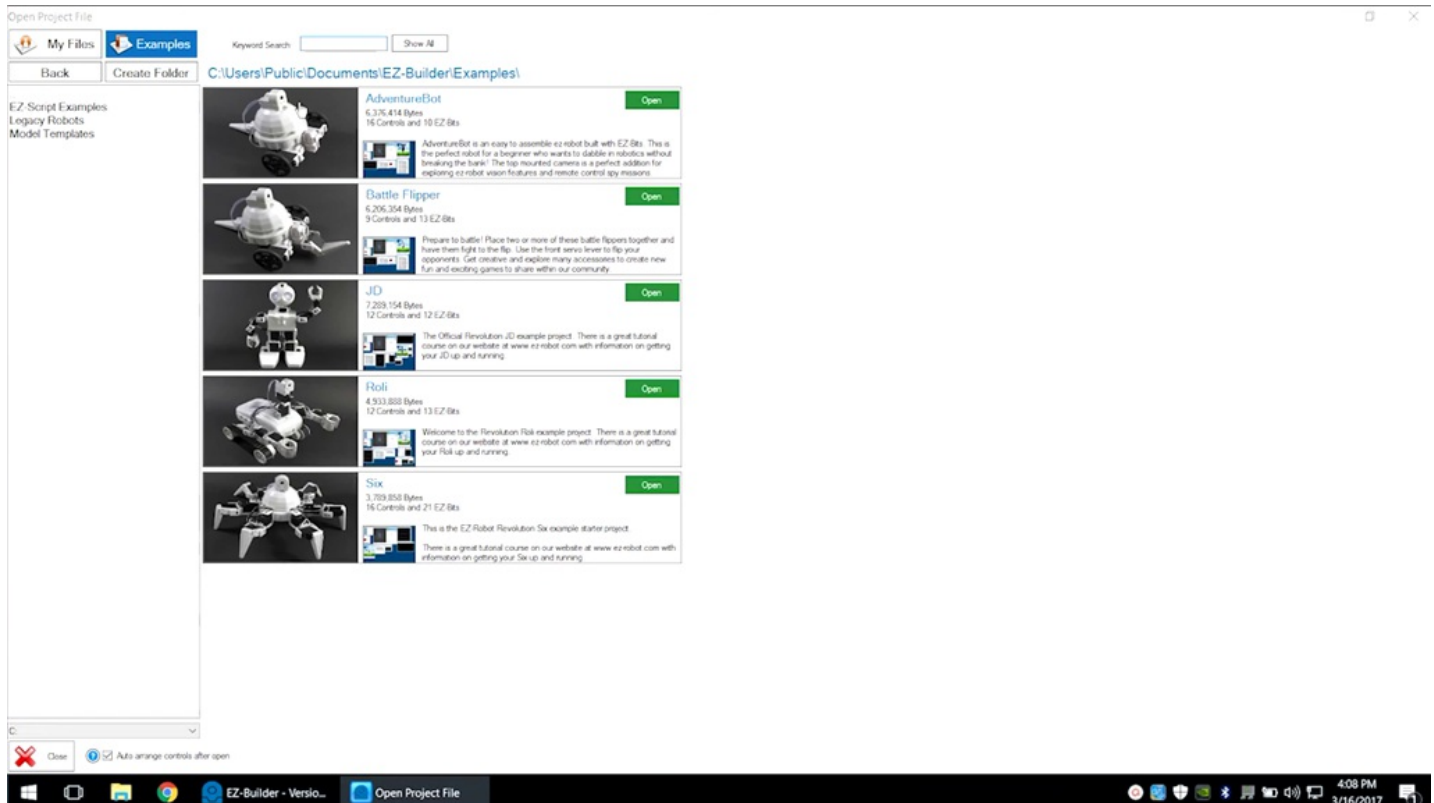
Step 2

Power on the robot. Select the **EZ-B v4** Wi-Fi connection.



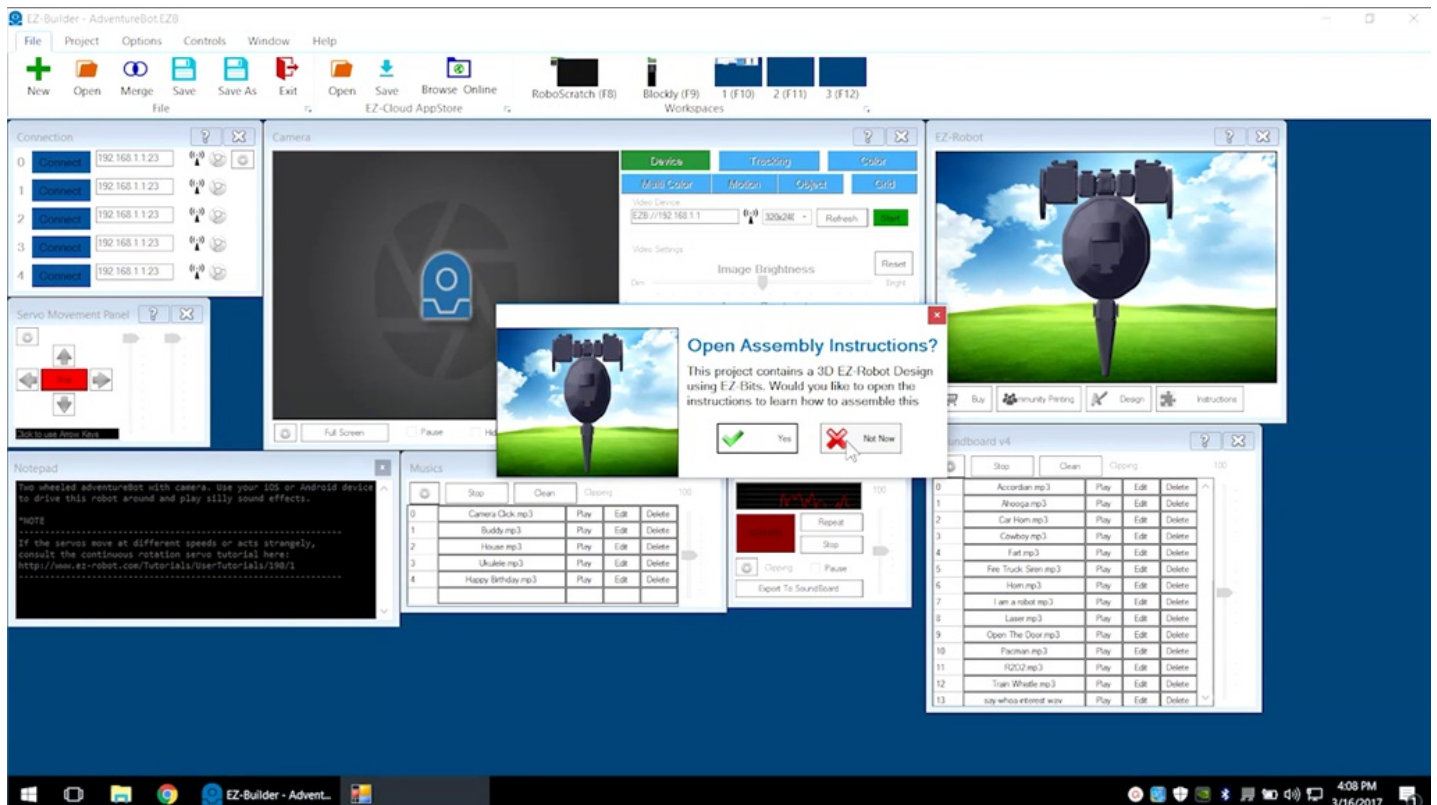
Step 3

Open **EZ-Builder**. Select **Example Projects** and load the **AdventureBot** project.



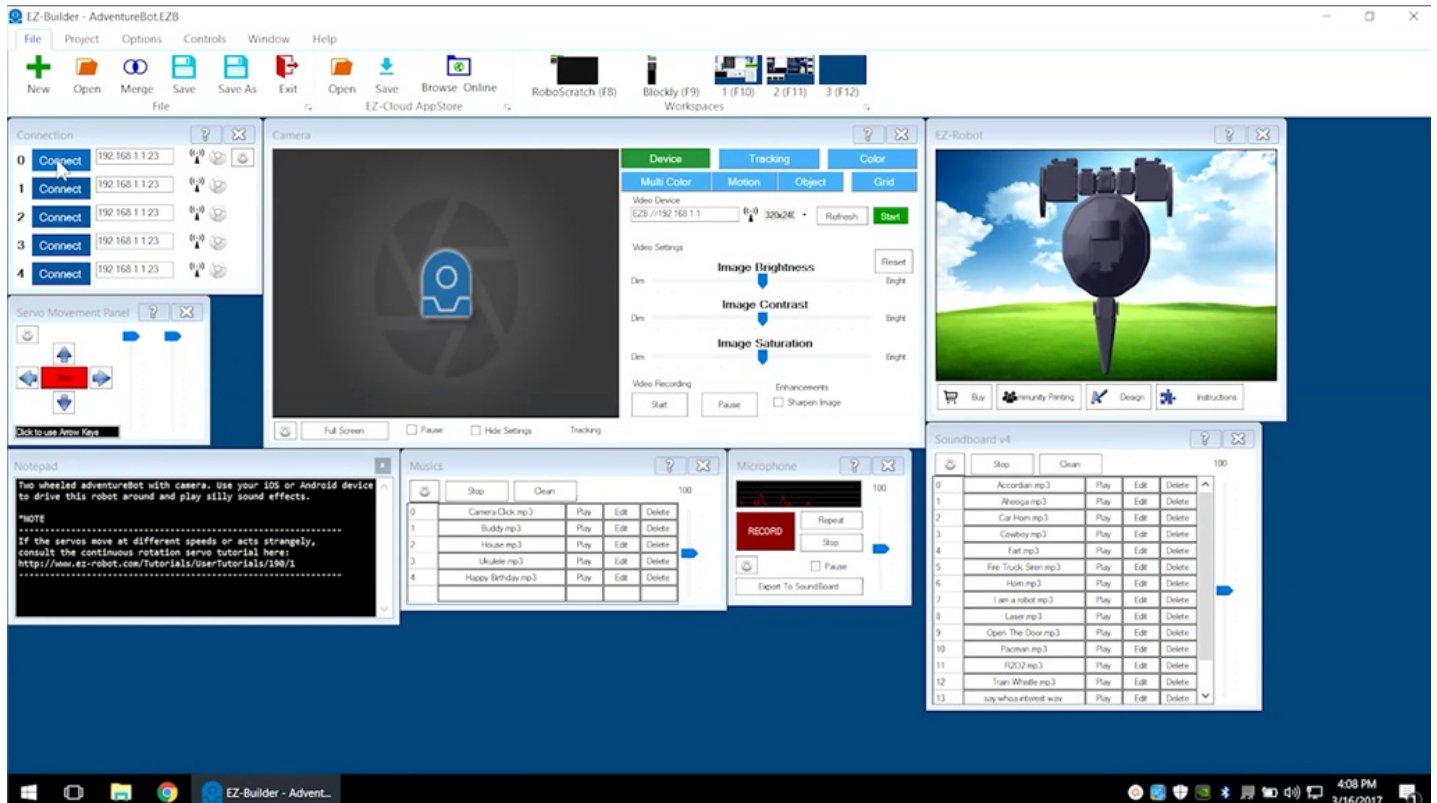
Step 4

See how to build **AdventureBot** in **Episode 010**.



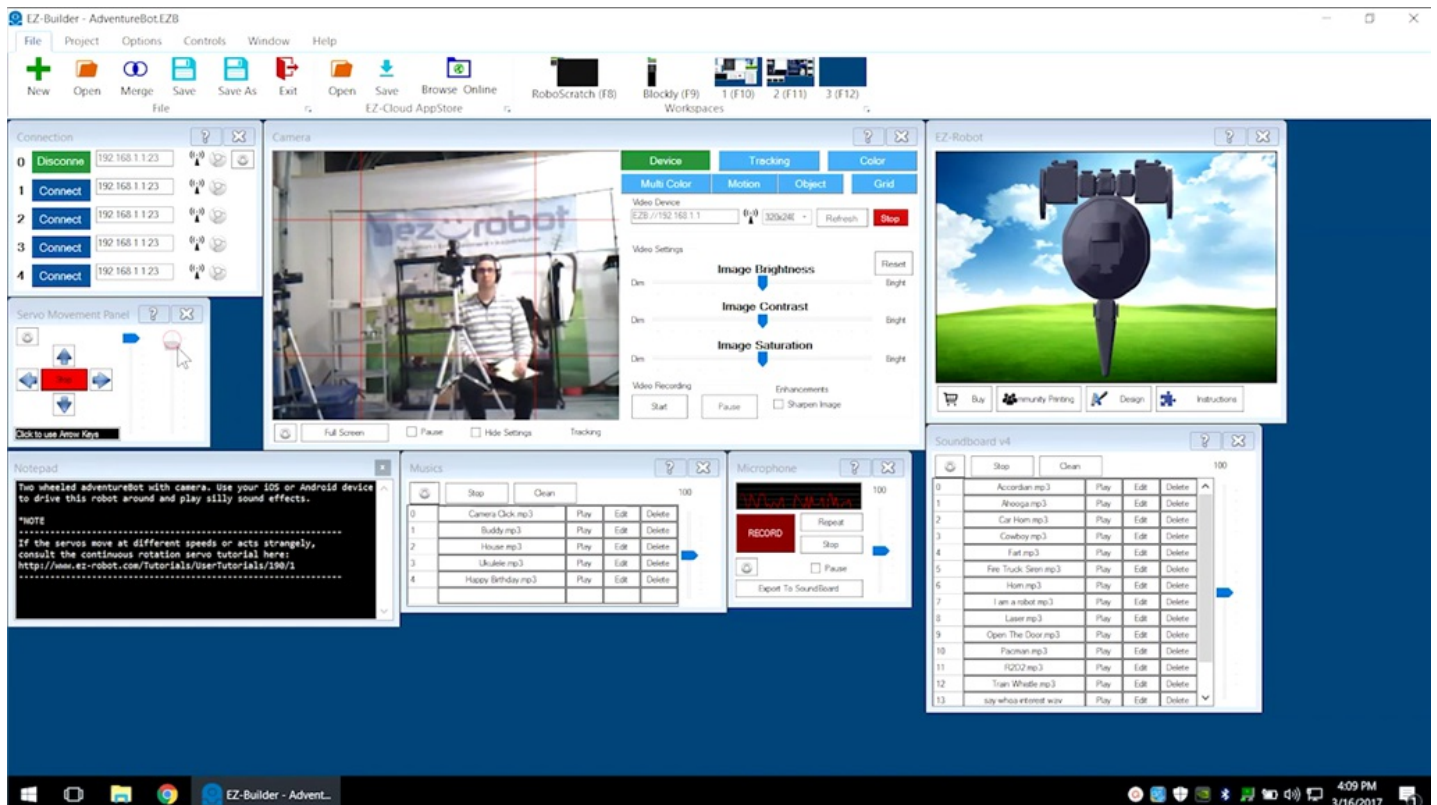
Step 5

Select **Connect to EZ-B** and listen for the chime.



Step 6

Use the arrow keys and sliders of the **Servo Movement Panel** to control wheel movement.



Step 7

Use the **Microphone** control to record and playback sounds.

The screenshot displays the EZ-Builder software interface for controlling a robot. The main window is titled "EZ-Builder - AdventureBot.EZB" and features a menu bar (File, Project, Options, Controls, Window, Help) and a toolbar with icons for New, Open, Merge, Save, Save As, Exit, Open, Save, Browse Online, and EZ-Cloud AppStore. Below the toolbar are tabs for RoboScratch (F8), Blockly (F9), and two workspace tabs (1 (F10), 2 (F11), 3 (F12)).

The interface is divided into several panels:

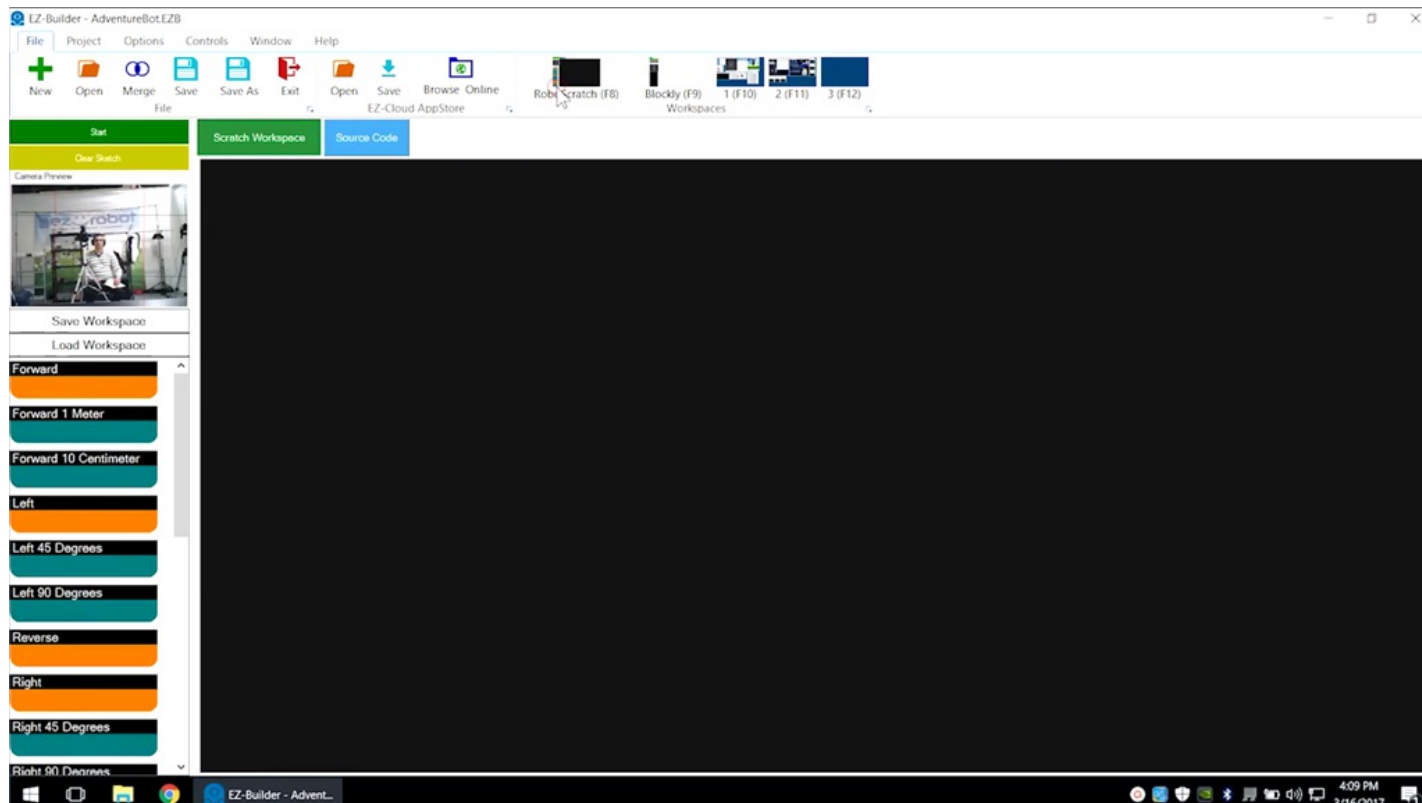
- Connection Panel:** Lists four connection attempts with IP addresses (192.168.1.123) and status (Disconnect, Connect, Connect, Connect).
- Servo Movement Panel:** Contains a diagram of a robot with servos and a "Click to use Arrow Keys" button.
- Camera Panel:** Shows a live video feed of a person operating a robot. It includes a "Device" dropdown (EZB://192.168.1.1), a "Video Device" dropdown (EZB://192.168.1.1), and a "Video Settings" section with sliders for Image Brightness, Image Contrast, and Image Saturation. There are also "Start" and "Pause" buttons for video recording.
- Music Panel:** A table with columns for "Stop", "Clear", and "100". It lists four music files: Camera Click.mp3, Bully.mp3, House.mp3, and Ukulele.mp3, each with "Play", "Edit", and "Delete" buttons.
- Microphone Panel:** Features a "STOP (1.5s)" button, a "Repeat" button, and an "Export To Soundboard" button.
- Soundboard v4 Panel:** A table with columns for "Stop", "Clear", and "100". It lists 13 sound effects: Accordion.mp3, Ahooa.mp3, Car Horn.mp3, Cowboy.mp3, Fat.mp3, Fee Truck Seen.mp3, Horn.mp3, I am a robot.mp3, Laser.mp3, Open The Door.mp3, Pacman.mp3, R2D2.mp3, Train Whistle.mp3, and yay whoa interest waw. Each entry has "Play", "Edit", and "Delete" buttons.

A Notepad window is open in the bottom left corner, displaying a note about driving the robot with a camera and a link to a tutorial.

The Windows taskbar at the bottom shows the time as 4:09 PM on 3/16/2017.

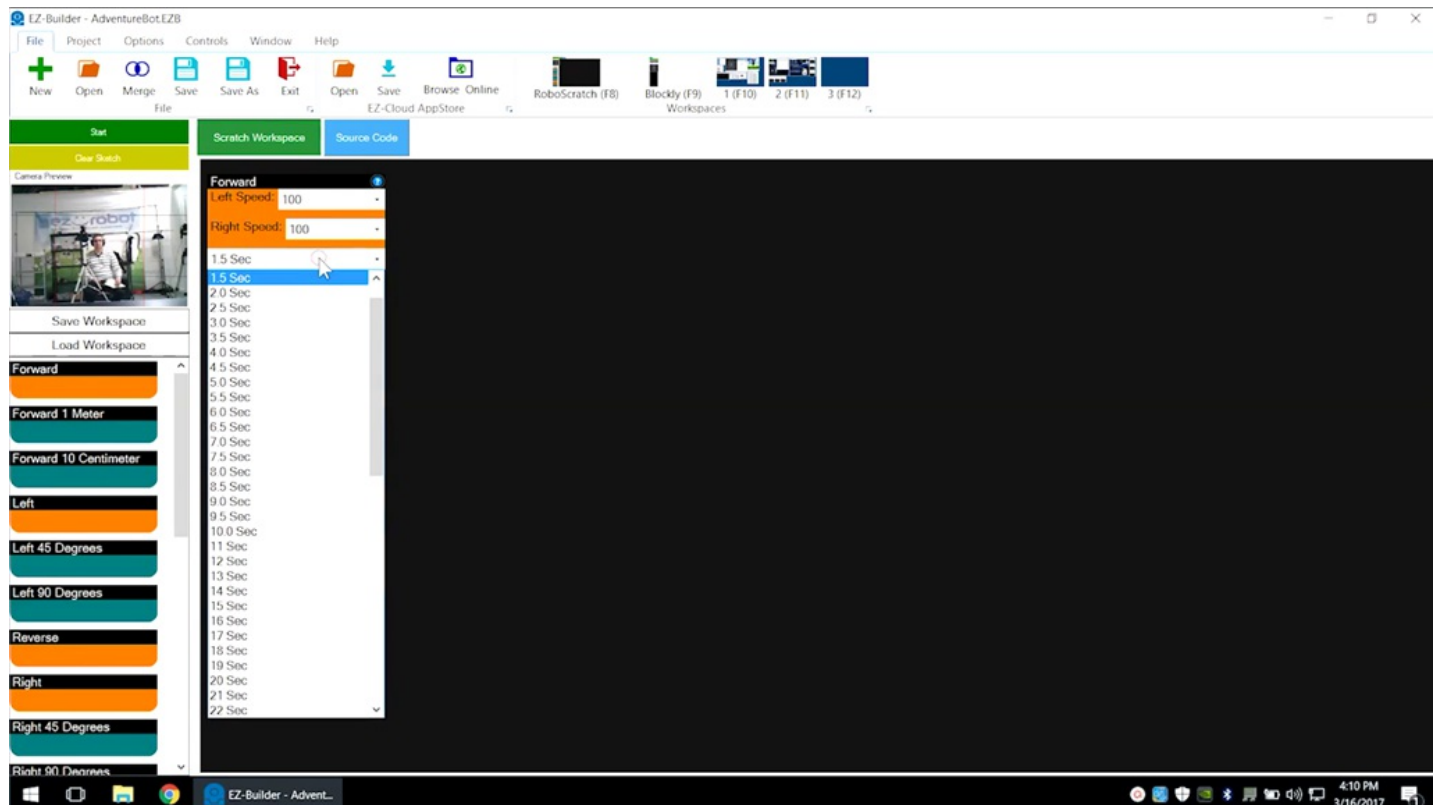
Step 8

RoboScratch can be used to create custom programs.



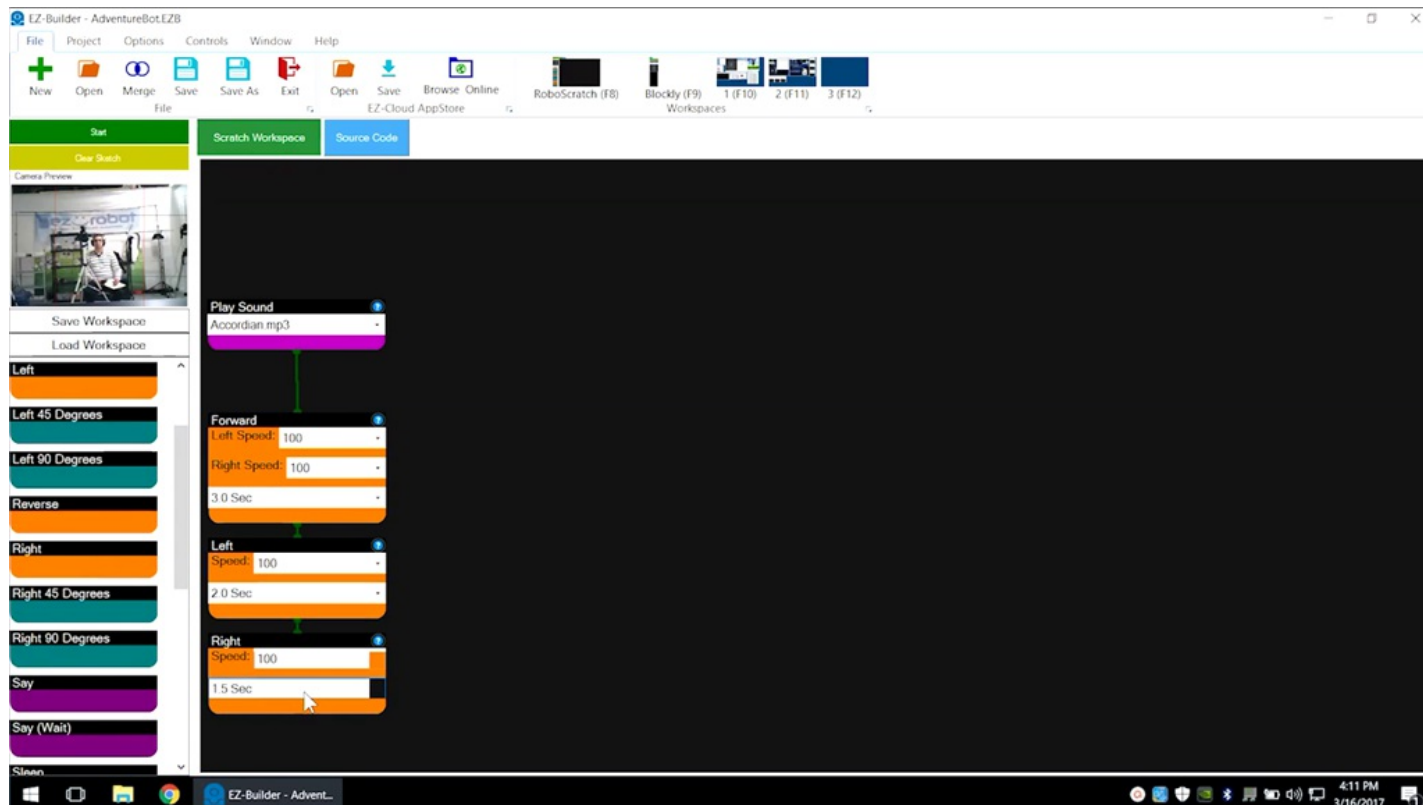
Step 9

Build programs by selecting actions.



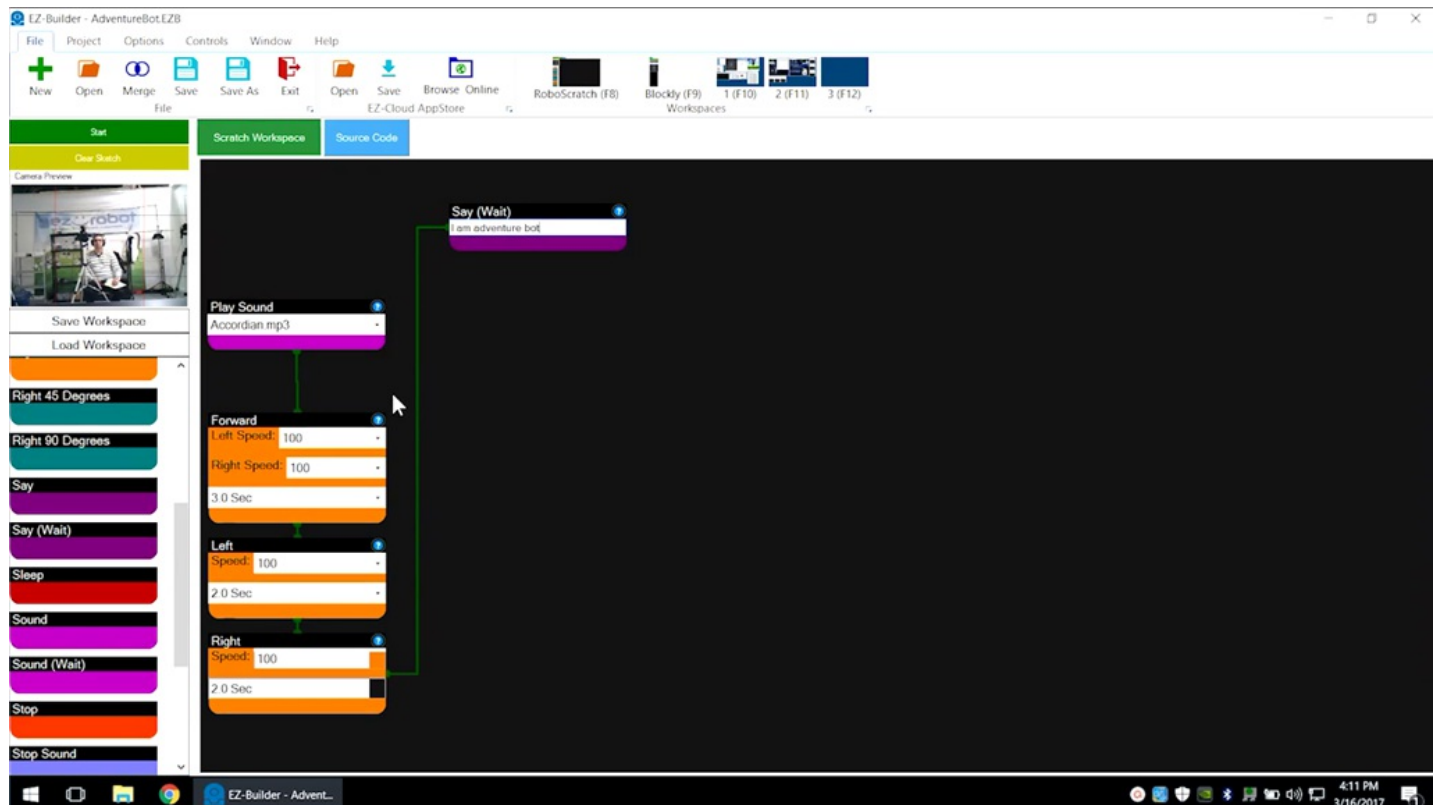
Step 10

Learn more about **RoboScratch** in **Episode 006**.



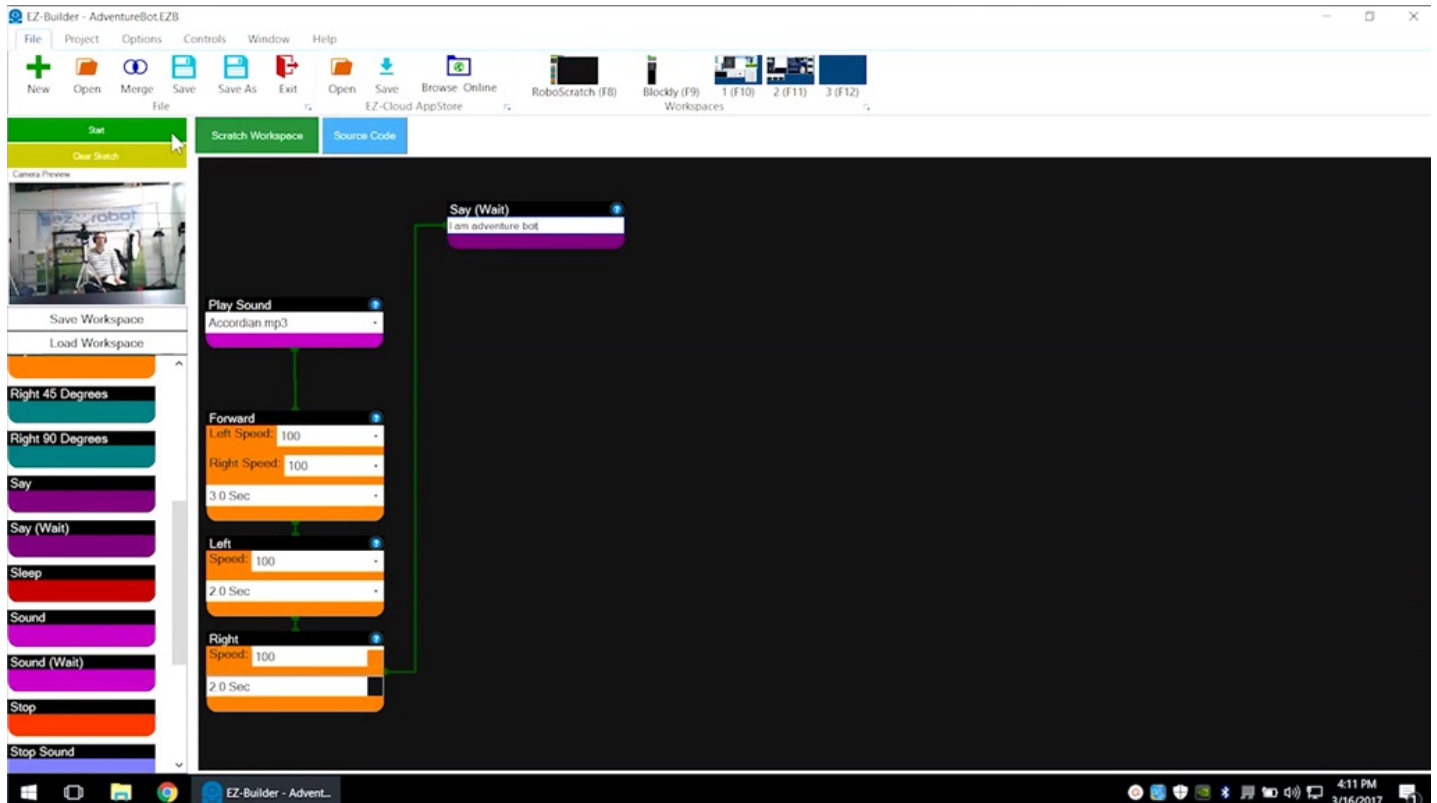
Step 11

Follow the green line to see the action execution order.



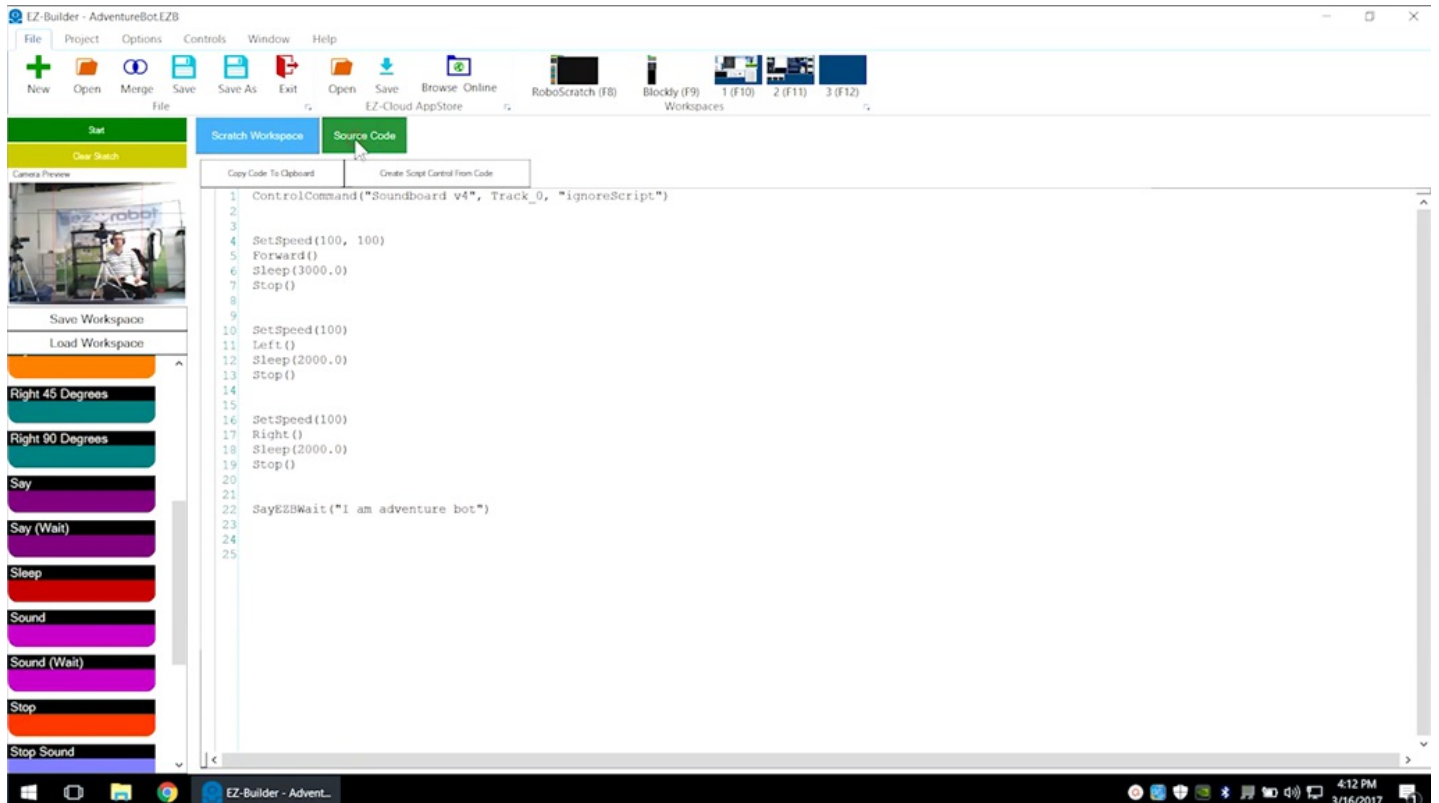
Step 12

Click on **Start** to run the program.



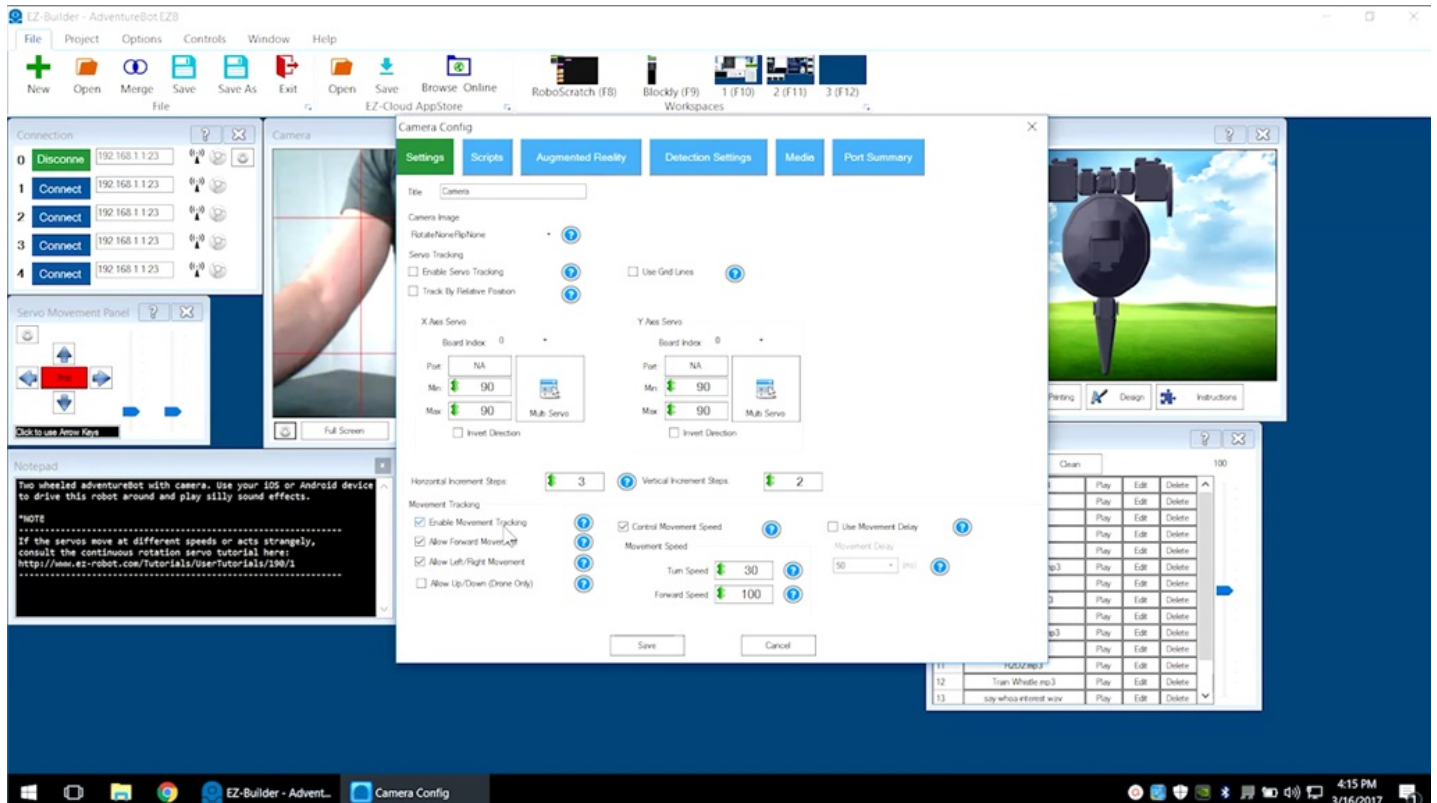
Step 13

Click on **Source Code** to view the generated code.



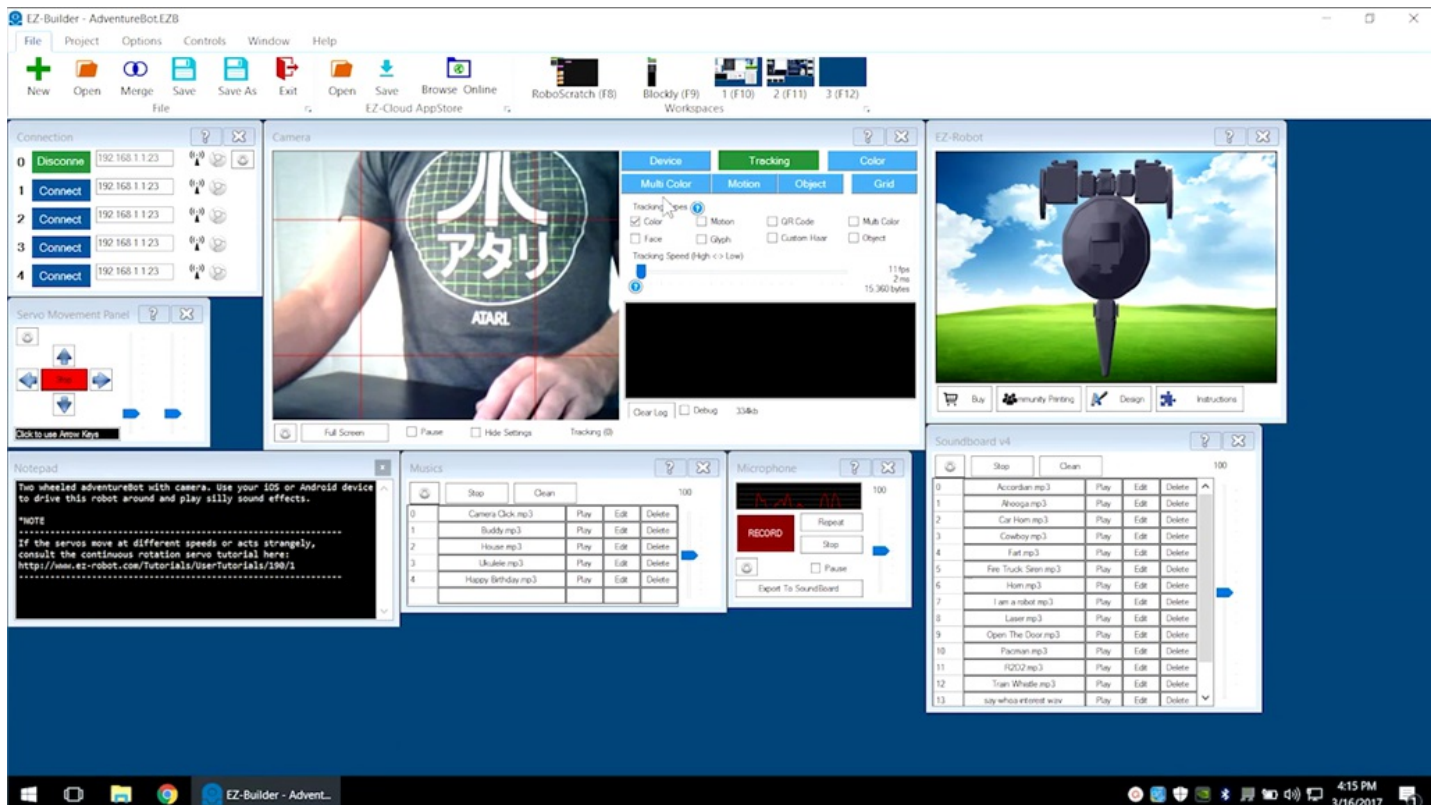
Step 14

In the **Camera** control, click on the **Gear Icon** and select **Enable Movement Tracking**.



Step 15

In the **Camera** control, click on **Tracking** and select the **Color** checkbox.



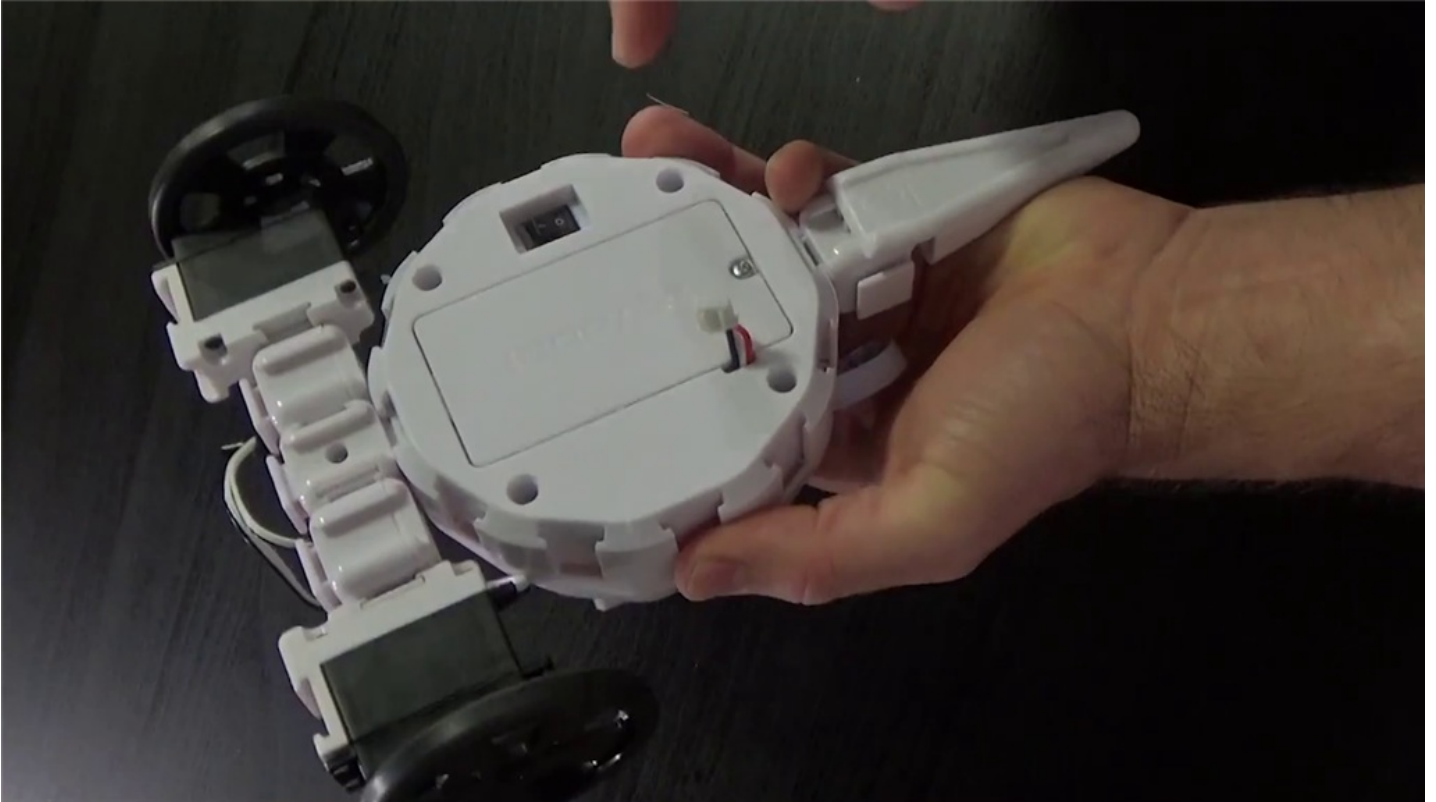
Step 16

By default, **AdventureBot** will track the color red. Turn off tracking when finished.



Step 17

Remember to disconnect, power off, and connect to the battery charger when finished.



Question #1 What letters are always at the start of the Wi-Fi connection name?

Question #2 Which control panel is used for AdventureBot™s movement?

Question #3 What is the default color for camera color tracking?

View the answers to this quiz at www.ez-robot.com/Tutorials/Lesson/83.

Visit www.TheRobotProgram.com for more episodes.