

# SYNTHIAM

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## The Robot Program Episode 011: Building AdventureBot

This lesson will demonstrate how to build the Revolution AdventureBot robot. Follow along with The Robot Program Episode 011: Building AdventureBot. At the end of this lesson, the reader will have learned how to download the EZ-Builder software, where to access the step-by-step building instructions, how to Clipâ€™™nâ€™™Play the EZ-Bit robot components, and how to secure the connections to the EZ-B Robot Controller for fully building AdventureBot.

View the video episode here: <https://www.ez-robot.com/Tutorials/Lesson/82>

Last Updated: 5/29/2018

## ⑤ Professor E's Overview

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This lesson demonstrated how to build the **Revolution AdventureBot** robot.

The **EZ-Builder** software can be downloaded from [www.ez-robot.com](http://www.ez-robot.com).

Always start with a fully charged robot. Remember to disconnect the wires carefully.

Within the software, follow along with the step-by-step building instructions.

The robot components are called **EZ-Bits**. Each **EZ-Bit** connects to the **EZ-B Robot Controller** using male-to-female connections at the back of the robot. The port layout can be viewed in the **Getting Started Guide**. Be sure to match the wire colors to the corresponding port colors.

Adjust the cables so that they are coming out of the back of each **EZ-Bit**, which will make the connections easier to organize. Use **Wire Wraps** to clean up the cables into bundled sections, allowing the robot to have full range of motion. Check that the cables are not pinched by the **Dome**.



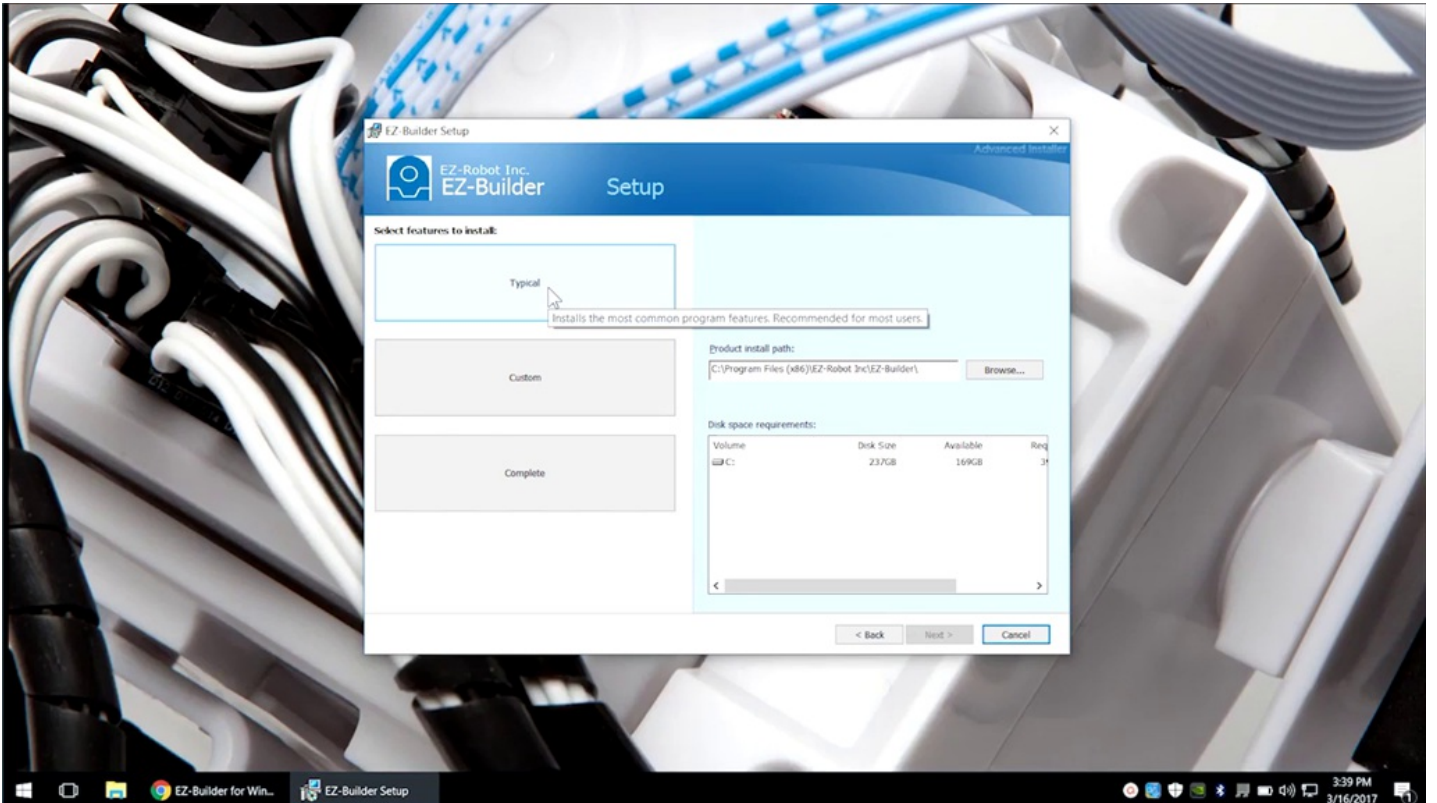
# Step 1

Download **EZ-Builder** from [ez-robot.com](http://ez-robot.com).

The screenshot shows a web browser window displaying the EZ-Builder website for Windows. The browser's address bar shows the URL [www.ez-robot.com/EZ-Builder/](http://www.ez-robot.com/EZ-Builder/). The website has a blue header with the EZ-robot logo and navigation links: Explore, Products, Software (selected), Learn, and Community. A secondary navigation bar lists categories: Windows, Plugins, Mobile, UniversalBot, Windows SDK, Mono SDK, and 3rd Party. The main content area features a large blue banner with the title "EZ-Builder For Windows". Below the title is a video player showing a robot and the text "The EZ-Life... All The Robots!". To the right of the video are three buttons: a green "Download EZ-Builder Installer.msi" button, a blue "Manual" button, and a blue "Release notes" button. Below these buttons, the text reads "EZ-Builder Version 2017.03.06.00" and "The software for robots! World's easiest and most powerful robot software designed for EZ-Robots and more. Scales between beginner and advanced users, this software introduces amazing features that will bring your robot to life by combining engineering and creativity." At the bottom of the browser window, a taskbar shows the Windows Start button, several application icons, and the system tray with the time 3:38 PM and date 3/16/2017.

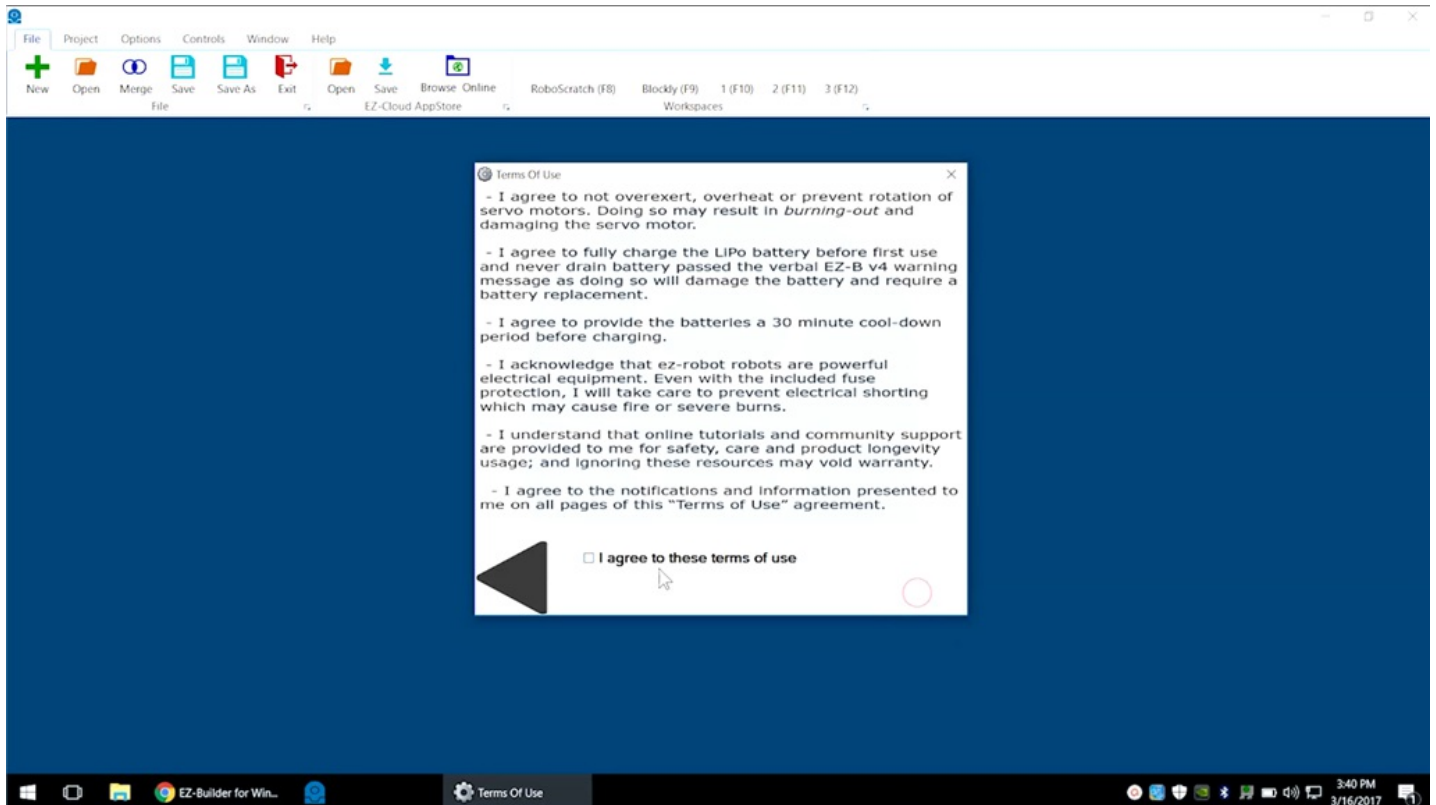
## Step 2

Double-click to begin installation. Choose **Typical** as the install type.



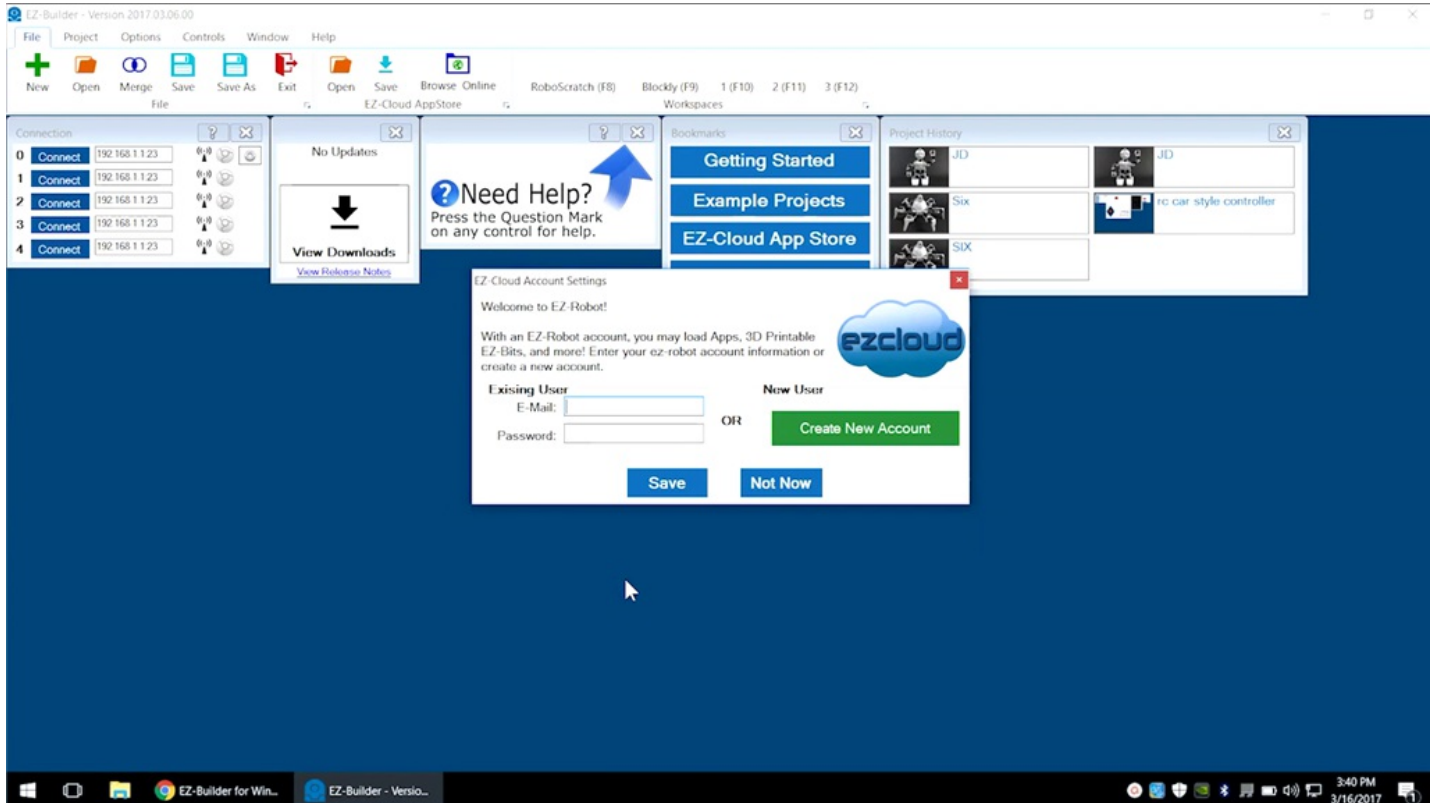
## Step 3

Read and agree to the **Terms of Use**.



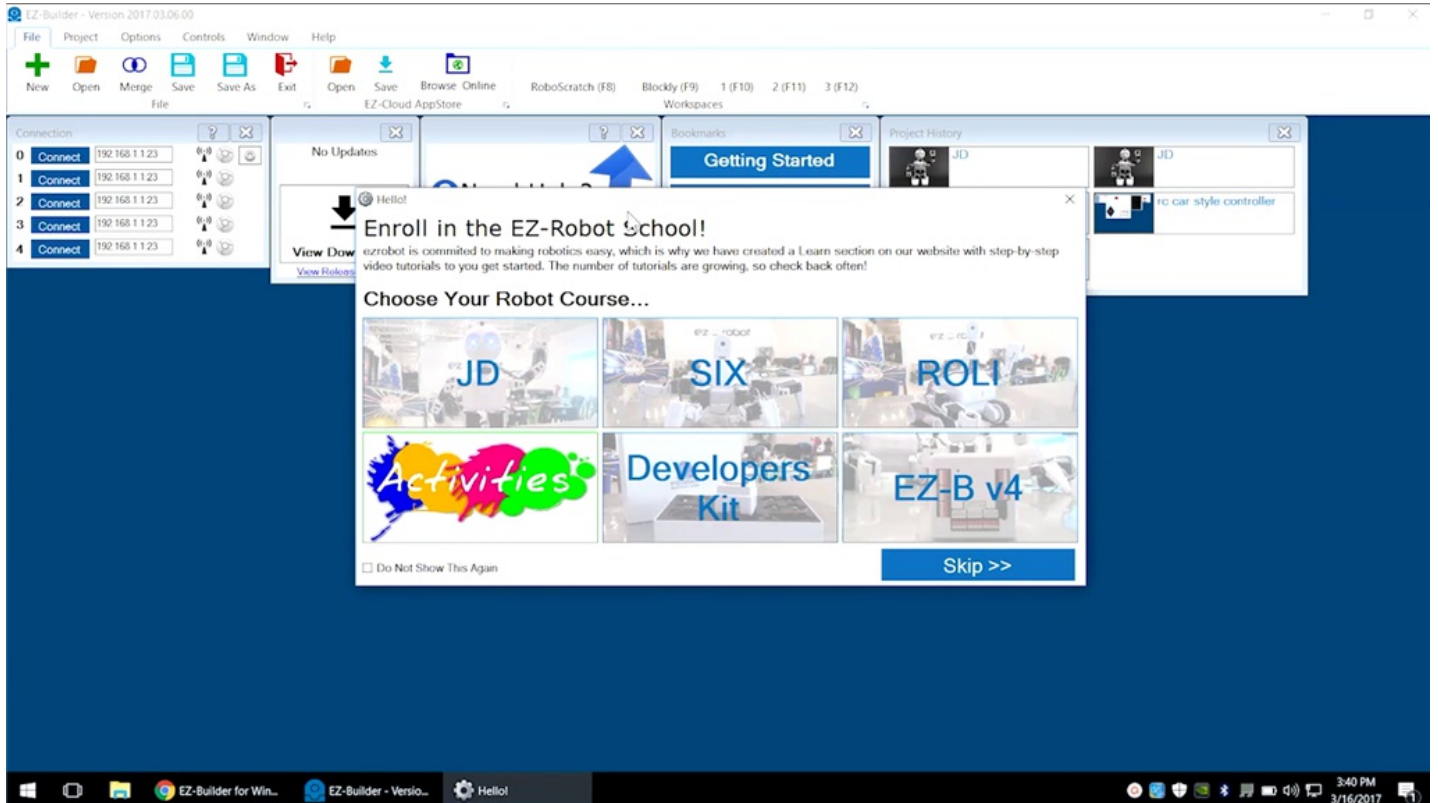
# Step 4

Login or create an **EZ-Cloud** account.



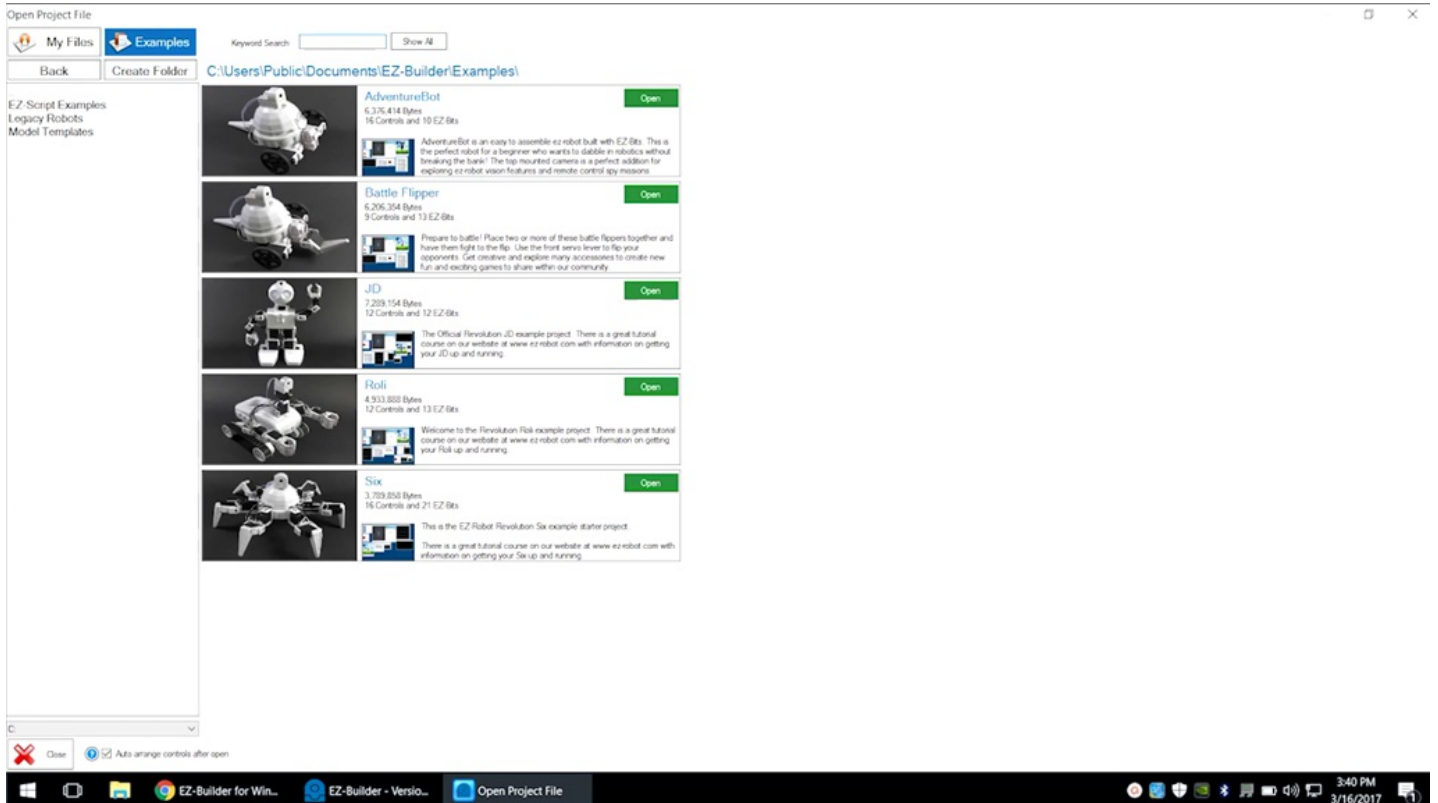
## Step 5

Find more tutorials at the **EZ-Robot School**.



# Step 6

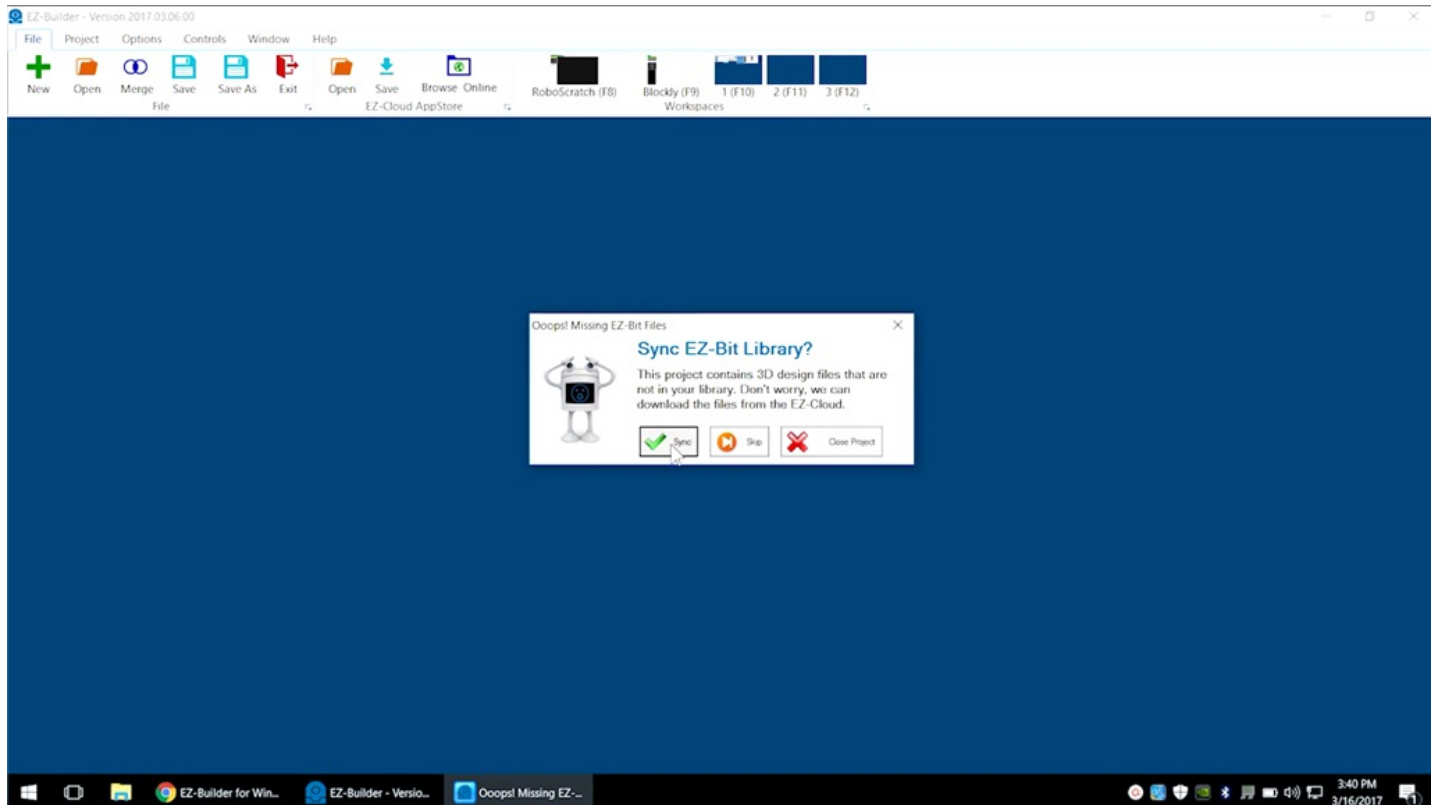
Load the **AdventureBot** project from the **Example Projects** menu.





## Step 7

**EZ-Bits** are robot parts. Sync to update the library.



## Step 8

Always charge the battery before using **AdventureBot**. Choose **Yes** to open the assembly instructions.

The screenshot displays the EZ-Builder software interface for AdventureBot. The interface includes a menu bar (File, Project, Options, Controls, Window, Help), a toolbar with icons for New, Open, Merge, Save, Save As, Exit, Open, Save, Browse Online, EZ-Cloud AppStore, RoboScratch (F8), Blockly (F9), and Workspaces (1 (F10), 2 (F11), 3 (F12)). The main workspace is divided into several panels: Connection (listing 5 connections to 192.168.1.123), Camera (showing a 3D robot model), Servo Movement Panel (with sliders), Notepad (with text about the robot), Musics (a table of music files), and EZ-Robot (showing a 3D robot model). A dialog box titled "Open Assembly Instructions?" is overlaid on the camera view, asking if the user wants to open instructions for a 3D EZ-Robot Design. The dialog has "Yes" and "Not Now" buttons. The Windows taskbar at the bottom shows the time as 3:41 PM on 3/16/2017.

Connection

Port	Device	IP Address	Connection Type
0	Connection	192.168.1.123	Connection
1	Connection	192.168.1.123	Connection
2	Connection	192.168.1.123	Connection
3	Connection	192.168.1.123	Connection
4	Connection	192.168.1.123	Connection

Camera

Device: EZB // 192.168.1.1

Video Settings: Image Brightness

Open Assembly Instructions?

This project contains a 3D EZ-Robot Design using EZ-Bits. Would you like to open the instructions to learn how to assemble this?

Yes Not Now

Notepad

Two wheeled adventurebot with camera. Use your IOS or Android device to drive this robot around and play silly sound effects.

NOTE

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If the servos move at different speeds or acts strangely, consult the continuous rotation servo tutorial here:  
<http://www.ez-robot.com/Tutorials/User-Tutorials/198/1>  
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Musics

Index	File Name	Play	Edit	Delete
0	Camera Click.mp3	Play	Edit	Delete
1	Buddy.mp3	Play	Edit	Delete
2	House.mp3	Play	Edit	Delete
3	Mule.mp3	Play	Edit	Delete
4	Happy Birthday.mp3	Play	Edit	Delete

Soundboard v4

Index	File Name	Play	Edit	Delete
0	Accordion.mp3	Play	Edit	Delete
1	Altooga.mp3	Play	Edit	Delete
2	Car Horn.mp3	Play	Edit	Delete
3	Cowboy.mp3	Play	Edit	Delete
4	Fat.mp3	Play	Edit	Delete
5	Fee Truck Seen.mp3	Play	Edit	Delete
6	Ham.mp3	Play	Edit	Delete
7	I am a robot.mp3	Play	Edit	Delete
8	Laser.mp3	Play	Edit	Delete
9	Open The Door.mp3	Play	Edit	Delete
10	Pacman.mp3	Play	Edit	Delete
11	R2D2.mp3	Play	Edit	Delete
12	Train Whistle.mp3	Play	Edit	Delete
13	say who's internet wiv	Play	Edit	Delete

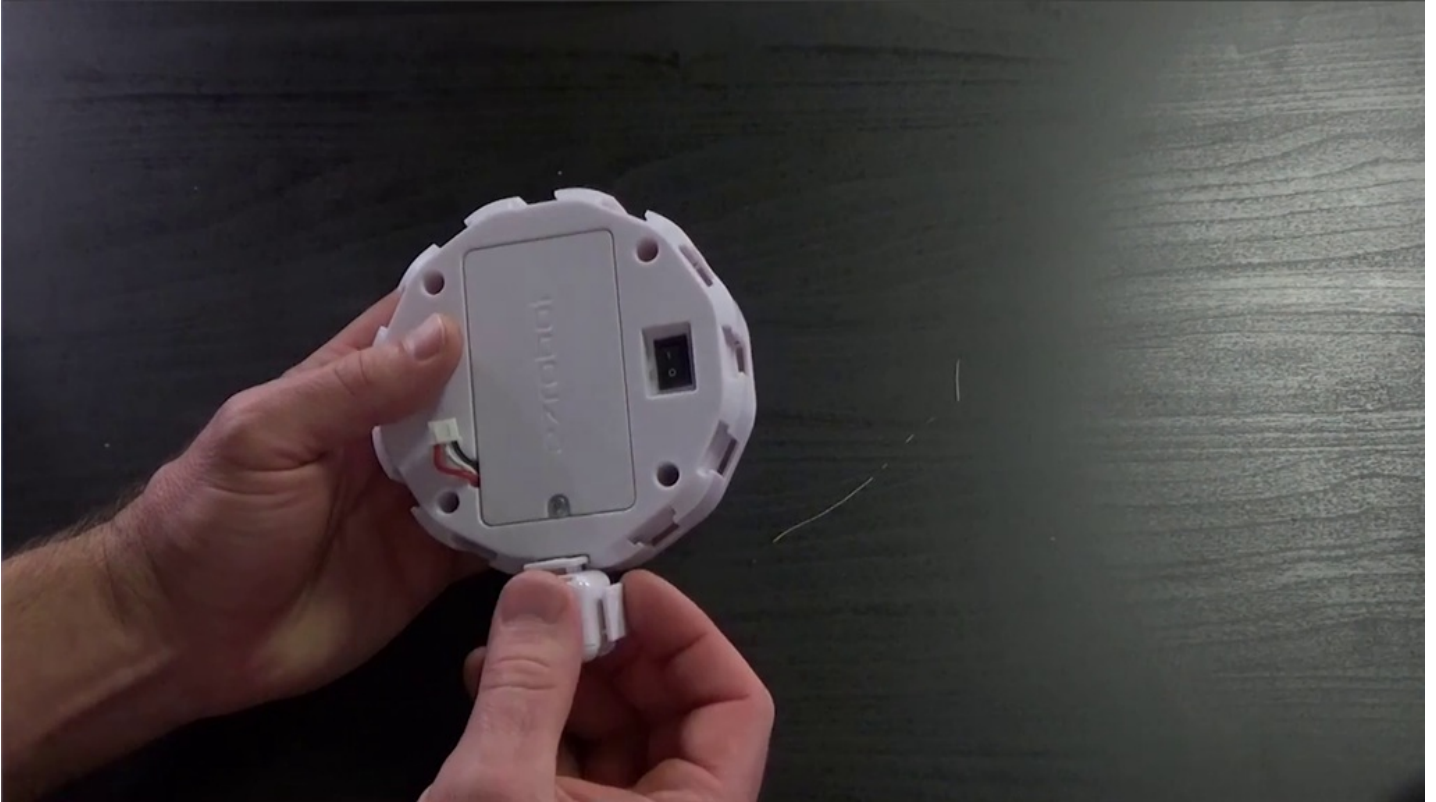
## Step 9

Insert **EZ-B** into the **Dodecagon Body**.



## Step 10

Clip an **Extension Cube** at the back of the **Dodecagon Body**.



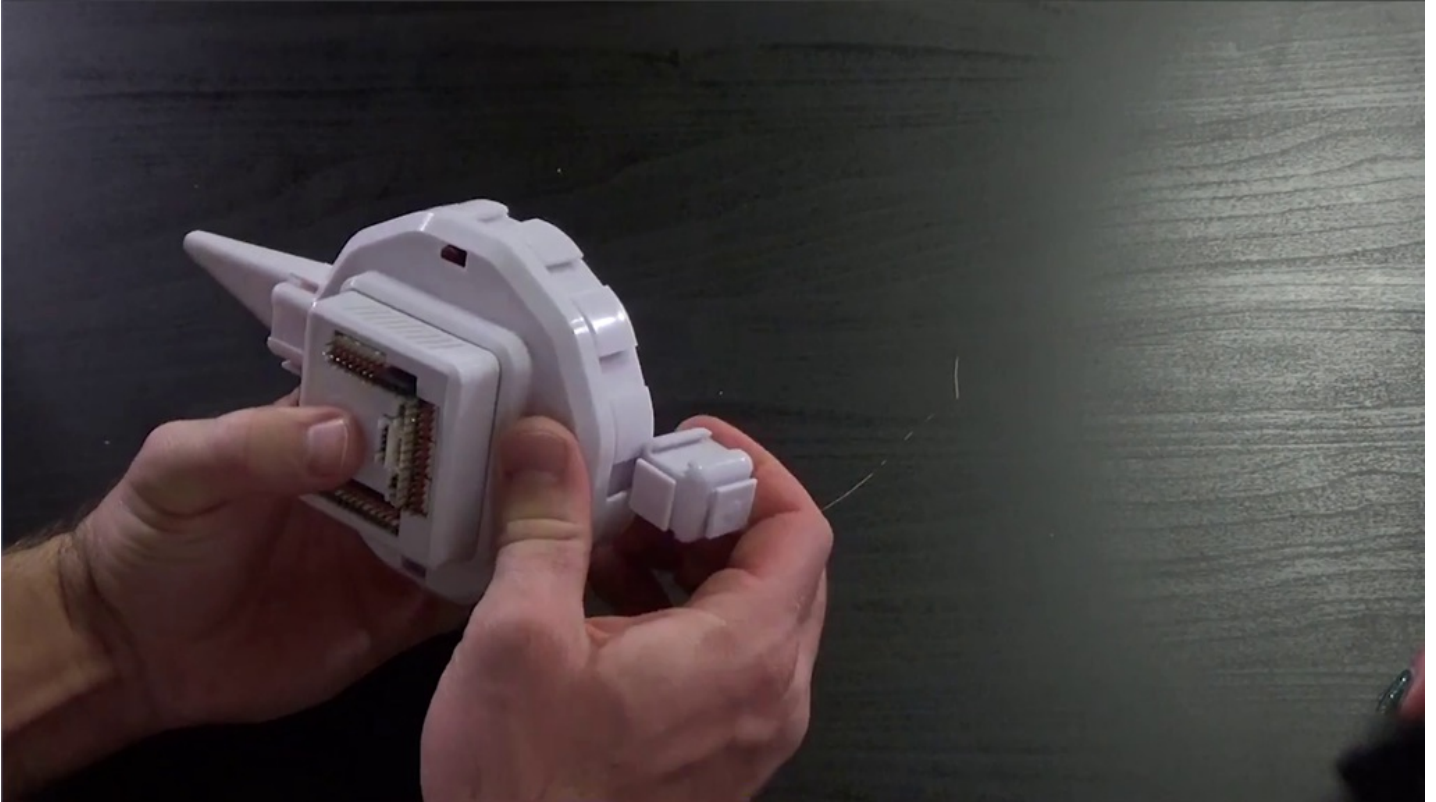
## Step 11

Clip the Play the Foot to the Extension Cube.



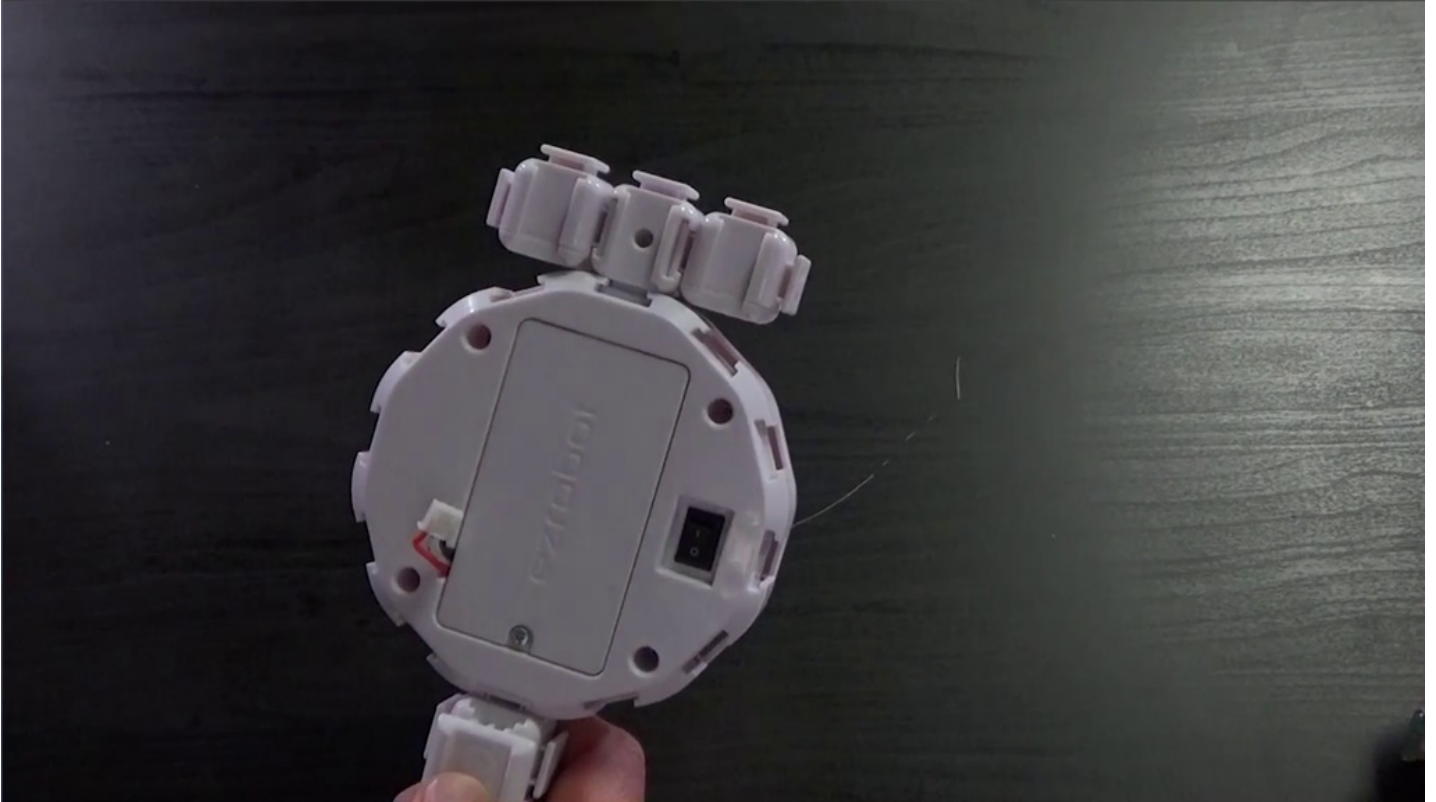
## Step 12

Clip an Extension Cube at the front of the Dodecagon Body.



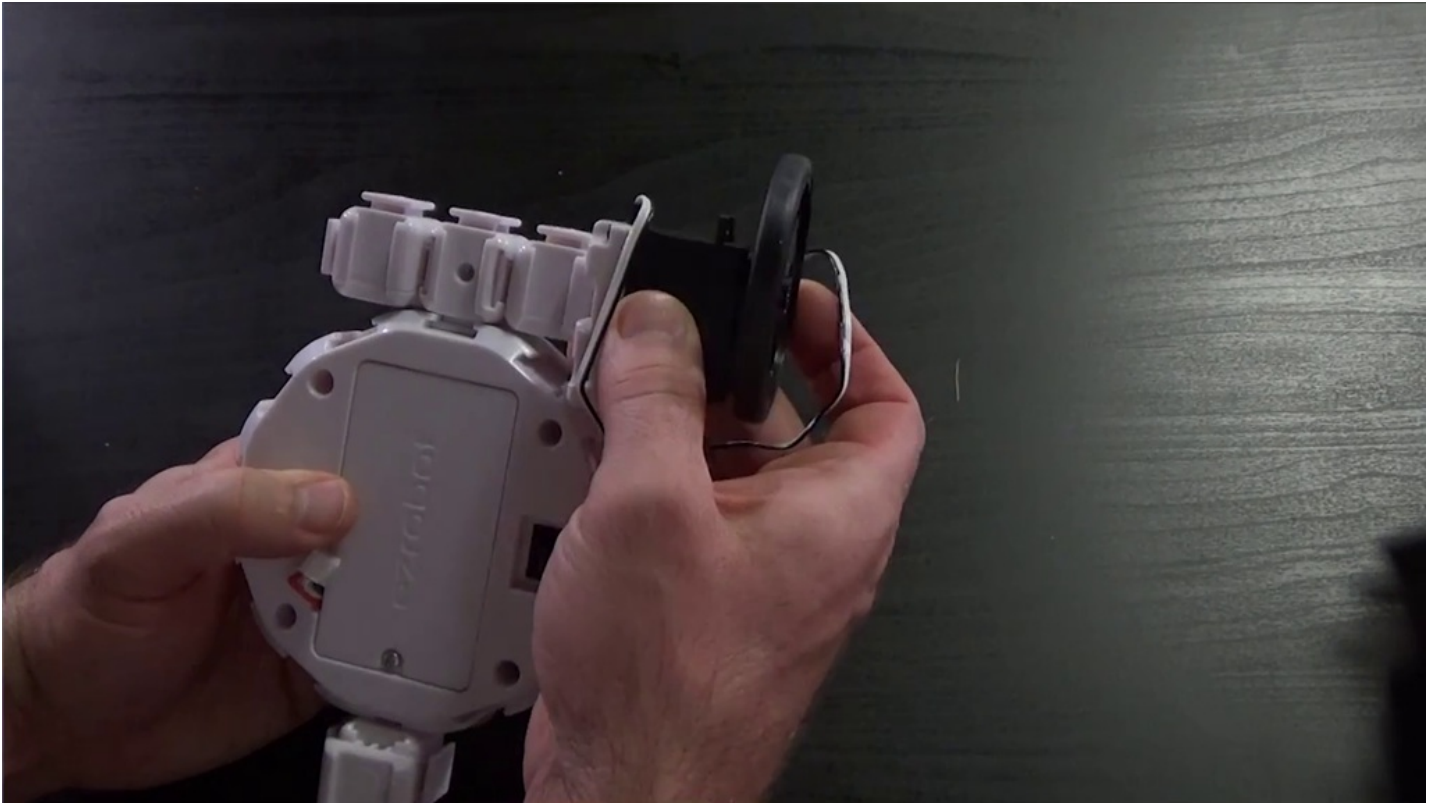
## Step 13

**Clipâ€™nâ€™Play** another **Extension Cube** to each side.



## Step 14

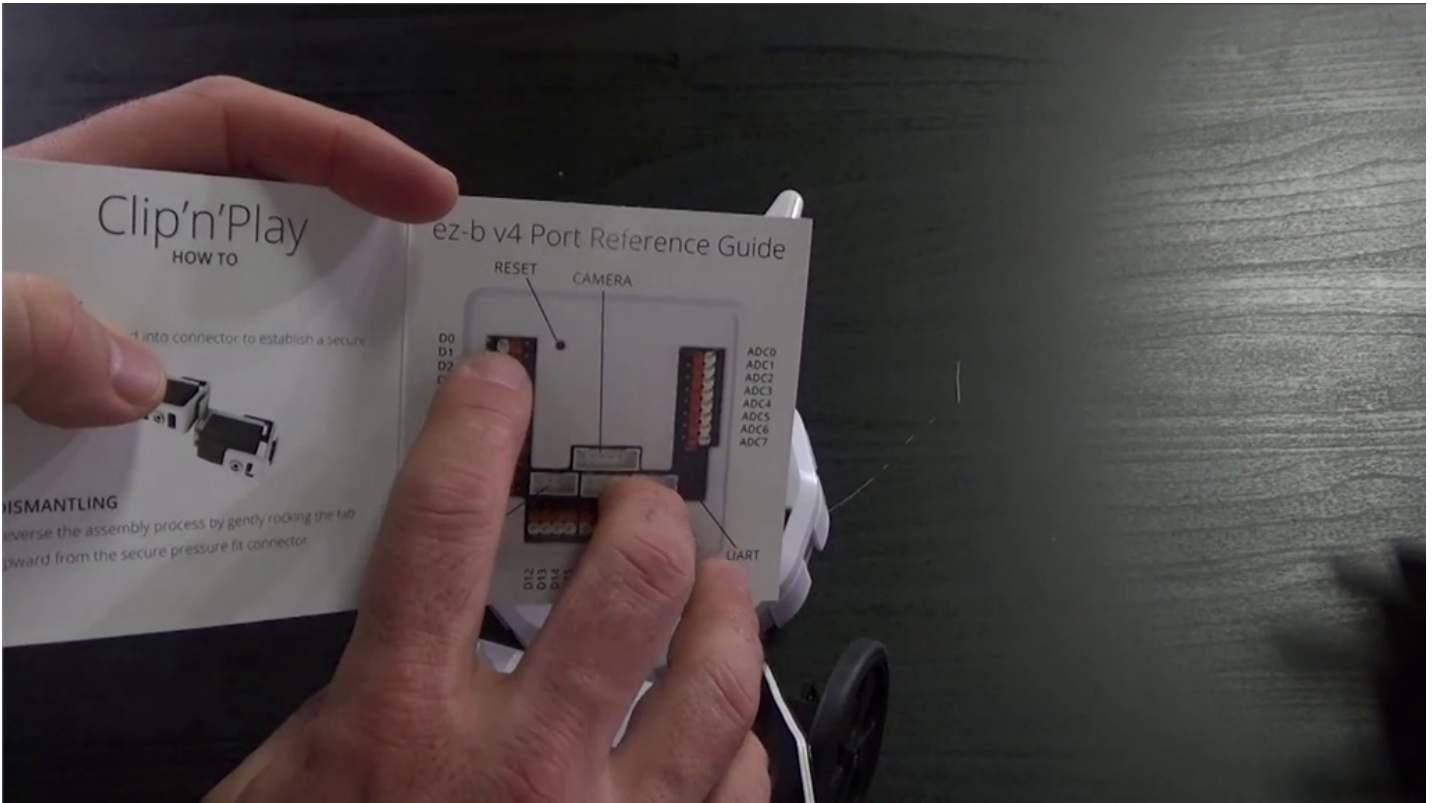
**Clip** a **Continuous Rotation Servo** to the left **Extension Cube** with the white bracket toward the inside.





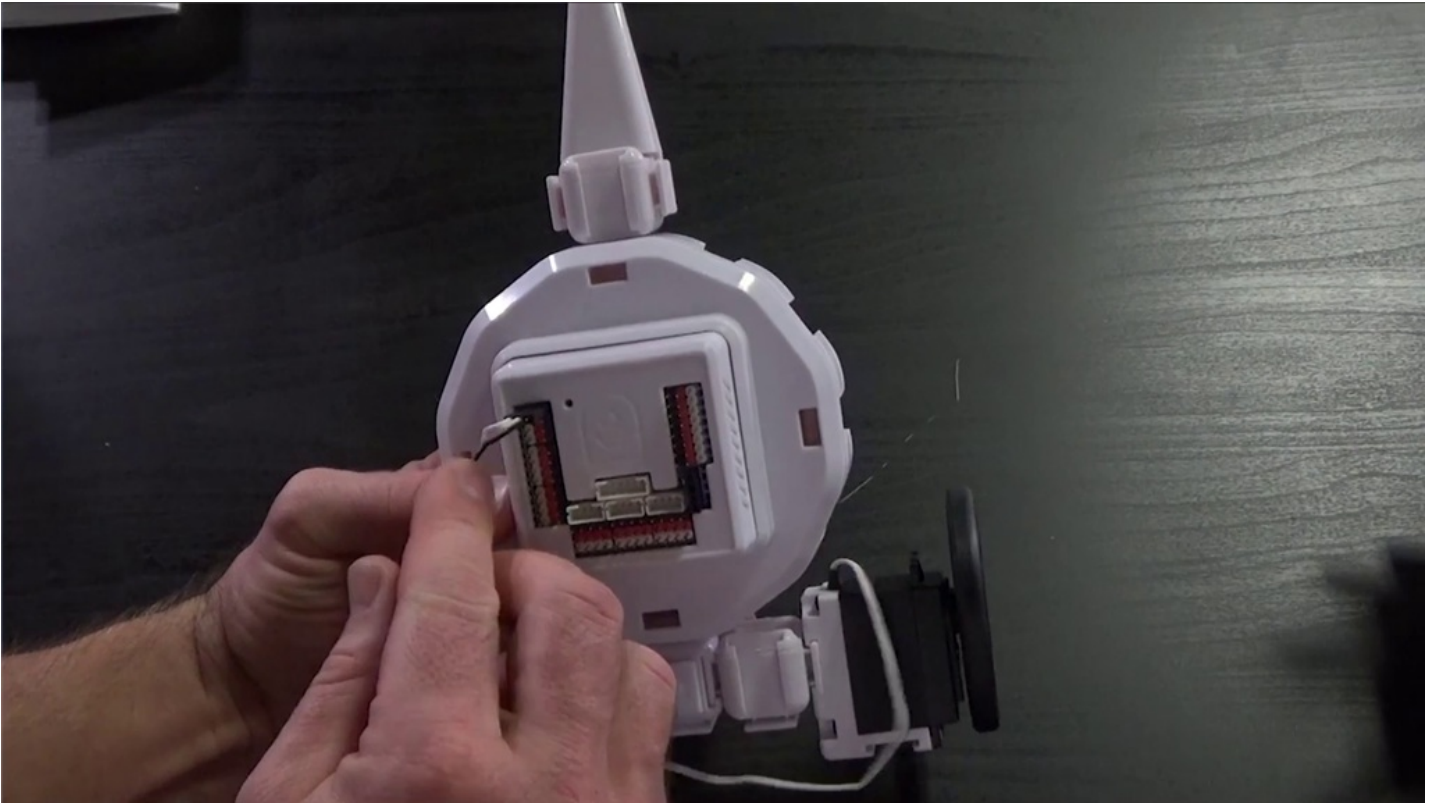
## Step 15

Connect the servo to **D0**.



## Step 16

Match the black wire on the cable to the black side of the **EZ-B** port. The cables use a male-to-female connection.



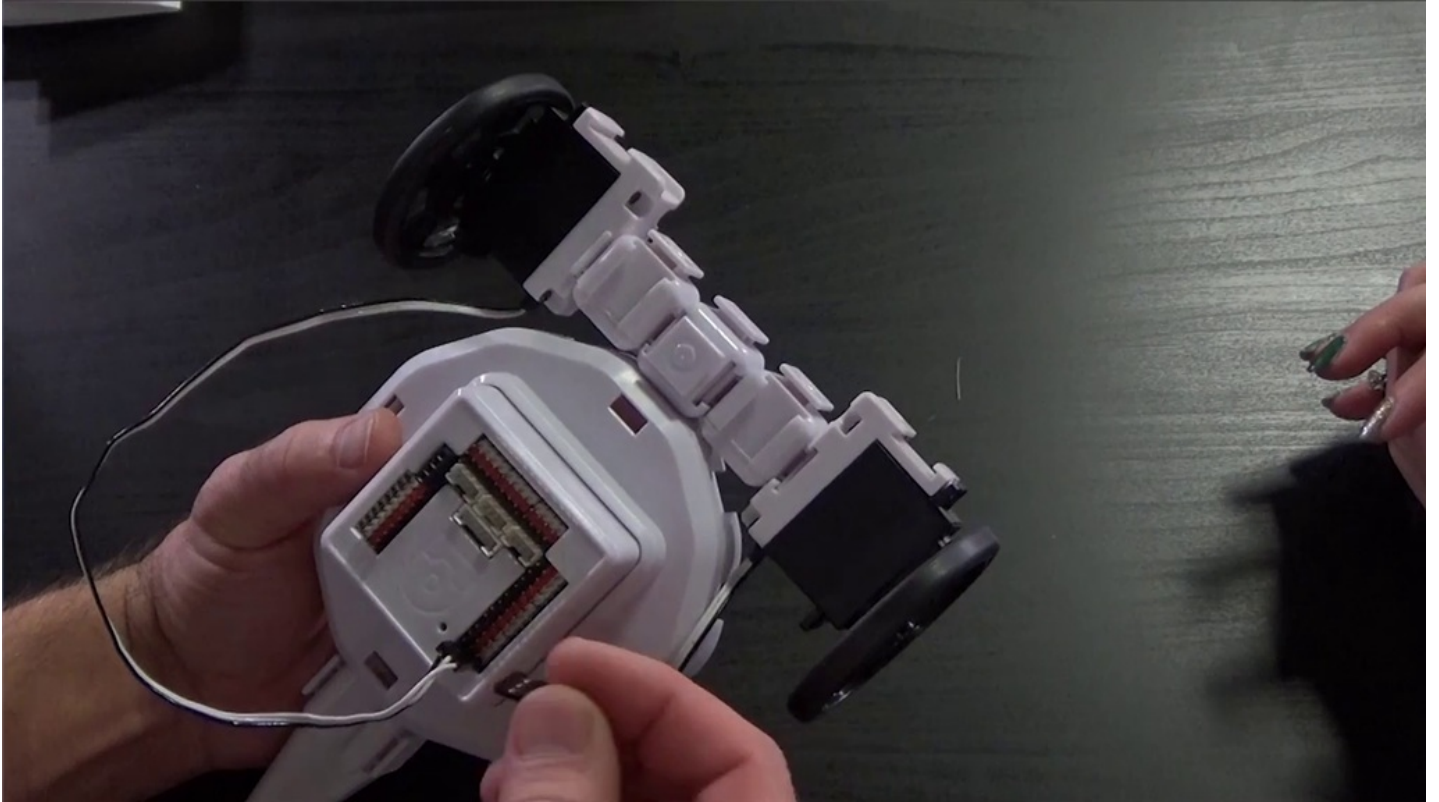
## Step 17

**Clipâ€™nâ€™Play** a **Continuous Rotation Servo** to the right **Extension Cube** with the white bracket toward the inside.



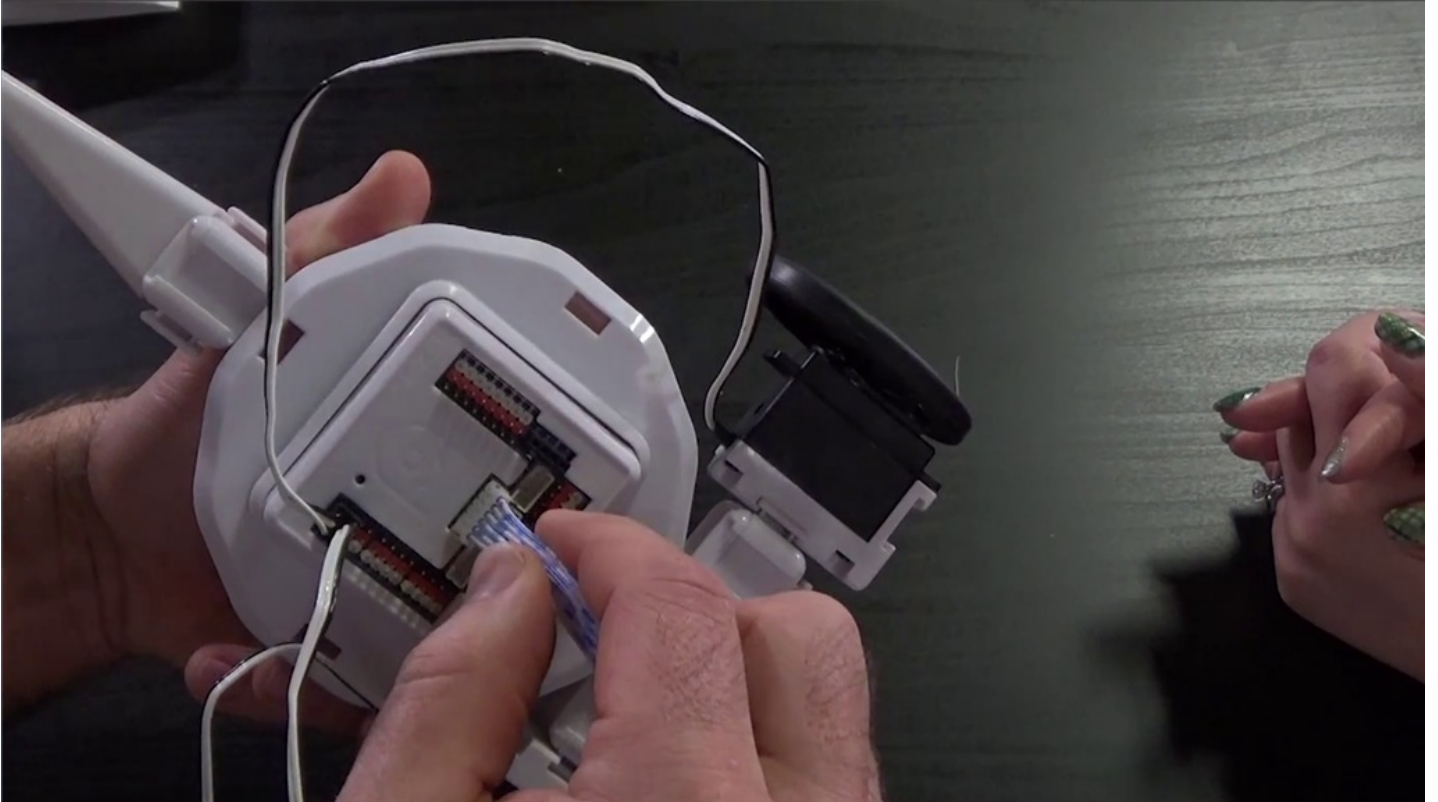
## Step 18

Connect the servo to **D1**.



## Step 19

Connect the **Camera** cable to the camera port.



## Step 20

Align the **Dome** with the front of the robot.



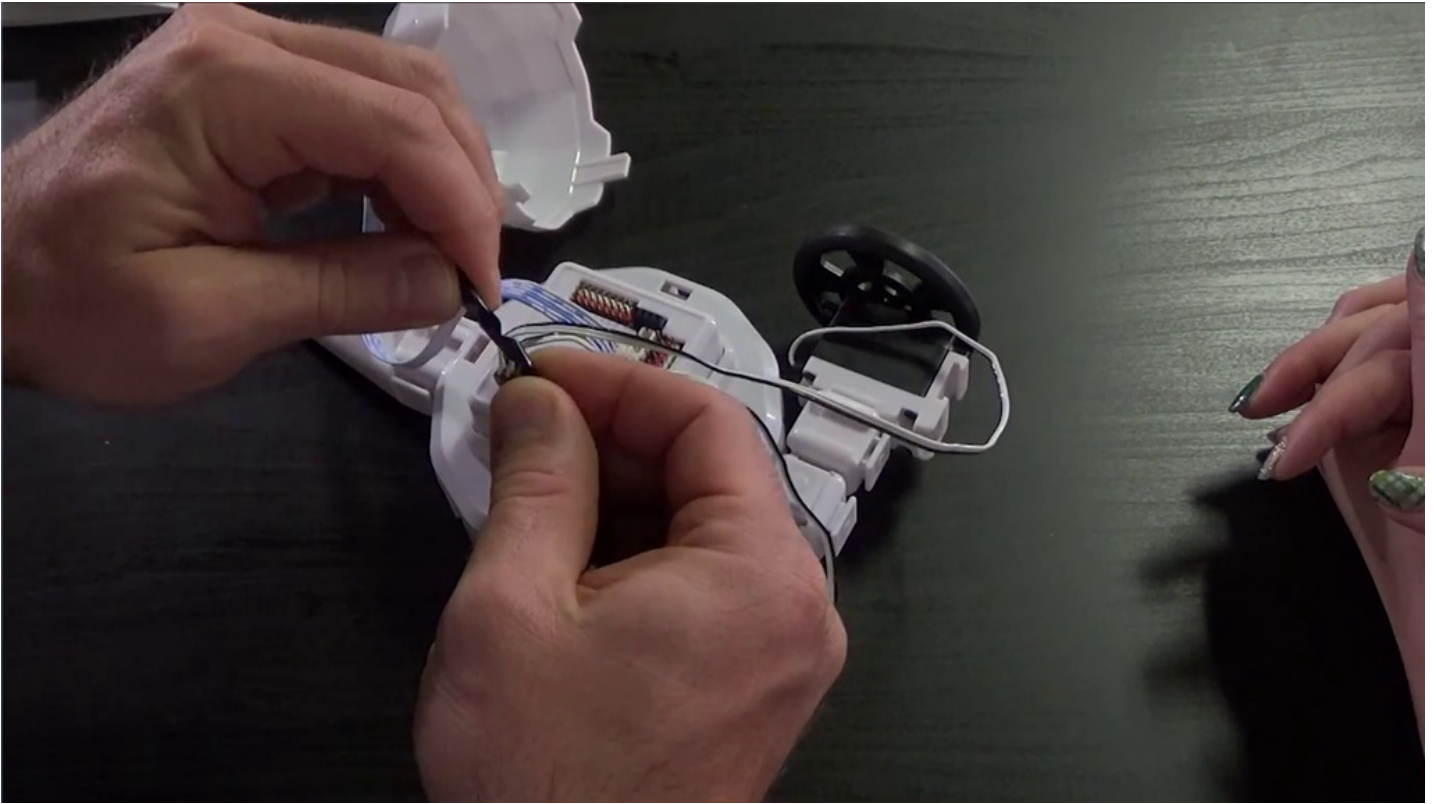
## Step 21

Slide the **Camera** into the top of the **Dome**.



## Step 22

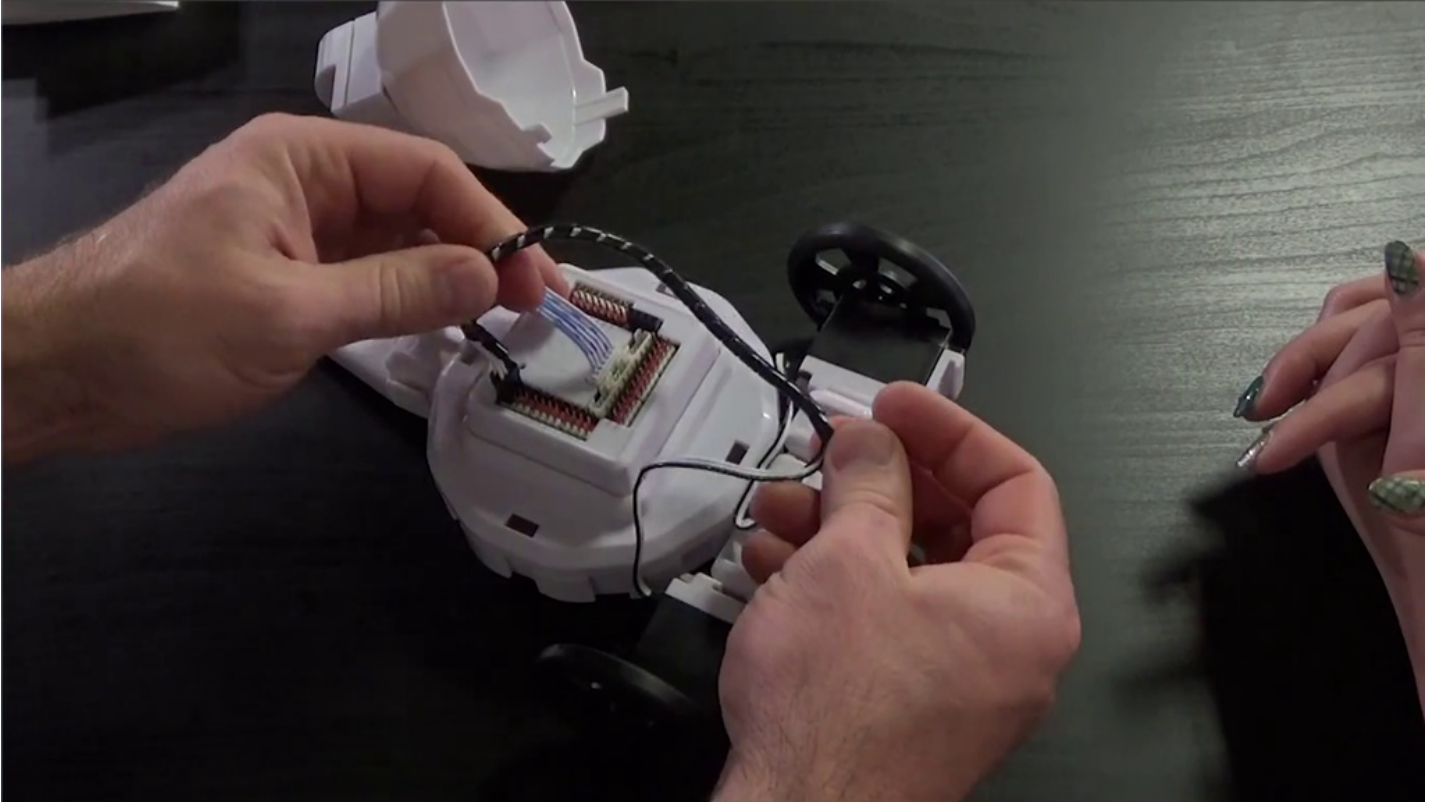
Use **Wire Wraps** to organize cables. Begin wrapping near the **EZ-B** and wrap downwards toward the servos.





## Step 23

Leave cable slack near servos for full range of motion.



# Step 24

Use the 3D view buttons to check all angles.

**Build My EZ-Robot**

Introduction Assembly Reorder

**Step 10 of 10) Add EZ-B v4 Camera**

Connect Camera to Camera port

**Parts List:**

- Dodecagon Body**  
Begin your robot build with this versatile dodecagon dome shell as the main body. 13
- Extension Cube**  
The extension cube allows multiple EZ-Bits to be connected to a single location.
- Hexapod Foot**  
The Hexapod Foot attaches to a female Clip'n'Play connector of a servo. Use this foot on
- Extension Cube**  
The extension cube allows multiple EZ-Bits to be connected to a single location.
- Extension Cube**  
The extension cube allows multiple EZ-Bits to be connected to a single location.
- Extension Cube**  
The extension cube allows multiple EZ-Bits to be connected to a single location.
- Continuous Rotation Servo**  
A continuous rotation servo will rotate 360 degrees, rather than the 180 degrees of a

**Views:** Top, Front, Rear, Left, Right, Bottom, Zoom Out, Zoom In

Windows Taskbar: EZ-Builder for Win..., EZ-Builder - Advert..., Build My EZ-Robot, 3:51 PM, 3/16/2017

## Step 25

Your **Revolution AdventureBot** is now complete!



## Quiz

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**Question #1** AdventureBot™'s cables are what type of connection?

**Question #2** What is the label of the first digital port?

**Question #3** Why is wire wrapping a good idea?

View the answers to this quiz at [www.ez-robot.com/Tutorials/Lesson/82](http://www.ez-robot.com/Tutorials/Lesson/82).

Visit [www.TheRobotProgram.com](http://www.TheRobotProgram.com) for more episodes.