synthiam.com

Using Amazon Echo (Alexa) as microphone for Synthiam

In searching for a noise tolerant microphone for my EZ-Robot AdventureBot I checked out the Amazon Echo product which has a great feature in its always-on array microphones. You can even place several low-cost Echo Dots ($50) around your home to enable multi room use. The problem was how to get it to talk to EZB.
The answer is, as pointed out by @Mickey666Maus in a previous post, the free web service called IFTTT (If This Then That). IFTTT has a built-in interface (Channel) that supports Amazon Echo and includes a user defined Channel called Maker that offers a means to send http commands to devices.

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Create EZ-Builder project and add controls

Add an HTTP Server Control (NOT the HTTP Custom Server), set port number (8010 in my example) and START the server
Add a Movement Panel Control for your robot
Simple commands such as forward() can be added in IFTTT
Optional: If creating complex scripts, add Script Manager Control
Here is an example from @DJ of a more complex script

```

SayEZB("I have " +round( ( ( getvoltage() - 7 ) / 1.2 ) * 100, 1 ) + " percent battery remaining")

```

Router setup

Since the Amazon Echo will only send IFTTT commands to public IP addresses, even if the Echo is on the same Wi-Fi network as your EZ-Builder device, you will need to setup port forwarding on your router to send the port assigned to your HTTP server.
The setting is router dependent and can usually be found in the firewall section. I recommend forwarding both TCP and UDP ports
Optional: If your router is subject to frequent public IP address changes, consider a free service like DnyDns.org to provide a public name for your IP address

Setting up IFTTT

Create an IFTTT account and login and select My Applets
Create a new Applet and select Amazon Alexa Channel as the "IF" part and enter a phrase (must be all lower case)

Choose Webhooks as the "That" part

NOTE: Capitalization and NO spaces!!! Enter YOUR public IP address
and enter the Web Request and set the type to text/plain

Save the Applet

Test the setup

At a minimum, you will need the Echo working, router configured and EZ-Builder running. You can connect the robot later
When you speak the trigger phrase to Echo, it will respond with a "Sending to IFTTT" verbal response. Please note that you must use the "wake word" e.g. "Alexa" and "Trigger" to get the Echo to search for the phrases.
Optional: You can change the Echo wake word from "Alexa" to "Echo" or "Computer"
Check the EZ0Builder to see that the script manager logs your verbal commands
Connect the robot now and see if the EZB responds to the commands
Optional: If you prefer a handheld remote mic, just add the $30 "Alexa Voice Remote for Amazon Echo"
here is a video of the process

and... one other option.. you can use the Amazon Shopping app on your iPhone to send commands to IFTTT... note, no actual Amazon Echo hardware required!

here is the video.

Troubleshooting

If your the IFTTT applet runs, but doesn't connect to the EZ-Builder program, check to see that you have the public IP address and port number correct and that port forwarding is setup in your router. It will also show an "Applet skipped" in the IFTTT log
A quick test for this to just use a web browser to connect to that IP address with port number and it should bring up the internal web page that the EZB offers
If the Echo says "I don't see that IFTTT trigger" it means that you are not exactly speaking the phrase any of the Applets is looking for