

# CodeQuest, July 16 - 20

Day 2

# Homework review

# Yesterday's homework

Add 1 more piece of data to the extension for string manipulation practice

Do the alexa tutorial on my github:

[https://github.com/mrvivacious/AWS\\_Lambda\\_and\\_SNS](https://github.com/mrvivacious/AWS_Lambda_and_SNS)

Tasks: Text yourself through Alexa commands (skill can be tested in “Test” in the dev console)

Text me sometime before class tomorrow with your skill (3096602340)

\*\*AWS free limits only allow 100 msgs per month -- feel free to text all the people you want while keeping an eye on your usage :)

[https://www.w3schools.com/howto/tryit.asp?filename=tryhow\\_js\\_todo](https://www.w3schools.com/howto/tryit.asp?filename=tryhow_js_todo)

<https://developer.chrome.com/extensions/storage>

Amazon Alexa

[https://docs.google.com/presentation/d/11fl\\_T3o7u6nnPR1dY7csnPqGApW6kRzgaki0SsfIMPA/edit#slide=id.g3730b56a9](https://docs.google.com/presentation/d/11fl_T3o7u6nnPR1dY7csnPqGApW6kRzgaki0SsfIMPA/edit#slide=id.g3730b56a9)

9\_0\_10

# Node.js

“Event-based JavaScript” -- I myself don't know that much about node as I've spent less time with Alexa than with web development

# Single utterance skills

Magical Messages used as demo

# Two-step utterance skills

Holiday Facts used as demo



# Conversational/multi-step skills

Baby Words used as demo

# Databases yay

My scheduling got messed up

# Database

Can be a single dictionary or a list of dictionaries (*humans[Vivek], humans[Divya], humans[Sunny]* or *Vivek:{username...age...}, Divya:{username...age...}* ... etc)

The same data that should be accessible:

- + after closing and reopening an app
- + when redownloading an app on a new device
- + on all devices that support the app (computer, mobile, alexa, etc)

Databases (and the rest of the “Cloud”) are massive computers throughout the world with vast deposits of memory and storage

CRUD

Create

Read

Update

Delete



# CRUD

Create -- A user signs up for an account on my app *myApp*, I save their login credentials to a database of user info by **creating** a new user in the DB

Read -- The CodeQuest website's registration form displays a "full" message when we reach max capacity for students. This is done by **reading** the number of users in the DB as soon as the page loads to determine whether the message needs to be displayed or not

Update -- A user changes the username used to login. I locate the user's data in the database and **update** the username value associated with this user's data

Delete -- A user decides to delete her/his account: the code **reads** the database for this user's info then **deletes** the data

# Popular databases

AWS dynamoDB -- 25000 reads/writes per month free (at time of publish)

+ Should be very secure by default

Google realtime db/firestore db -- 50000 reads/writes per day free

+ Not very secure by default -- security rules must be configured

MongoDB -- ldk, never used

*Web dev exclusive:* Local storage/chrome.storage -- free, we are allowed a great amount of space for client-side data persistence purposes

Workaround to security: OAuth (a method of token-based authorization)

# Project

Rock paper scissors

# Finite state machine

RPS:

- + Game request (asking alexa to play)
- + Shake state (alexa agrees to play -- moves are decided)
- + tie state (both moves are same)
- + player wins state (RS, PR, SP)
- + player loses state (SR, RP, PS)

# Adding our names to alexa w dynamoDB

<https://github.com/alexa/alexa-cookbook/tree/master/aws/Amazon-DynamoDB/read>

# Homework

# Homework

Create a db item with an initially blank value for name. In the skill, prompt for the player's name and save it. If (name not set), prompt. UpdateNameIntent (CRUD)

**HARD:** Change our rock paper scissors ( or make a new skill altogether ) that allows for two human players

+ Use dynamoDB to save the moves of each player and the result of the game (calculated in lambda -- bonus if you can do it in chrX)

Create a chrX for rock paper scissors that uses the same DB as the Alexa skill

One example of an end result: one person plays through alexa, one person plays via chrX

**Start thinking about your independent project! Tomorrow and Friday are project work times**