Final Project
Azure DataBox IOT Emulator

Problem Statement:
Azure offers a DataBox to ship back & forth hundreds of terrabytes. Its basically a smart PC. As it was part of the list of topics, It was an obvious choice to emulate such DataBox as an IoT object and shows basic management and reproduce the cycle order, ship, fill, return and upload. We will be using & adapting the online raspberry-PI emulator provided by Azure to simulate the load of a snowman photo, track the databox driving from downtown datacenter back to McKesson Canada headoffice

Overview of the Technology:
To solver the problem, I first adapted the raspberry-Pi emulator written in Native-React on top of Node.js (…). I added an SdDisk emulator and a GeoLocalisation emulator SIM908.
I added a node.js geotracking application showing in real time the localization of the emulated databox. I also added a node.js html forms to upload the photo to the raspberry-emulator SdDisk. Azure MQttp Hub and device, Azure Blob Storage and Google gmaps technology were used to solve the problem.

High Level Steps:
1) Create Azure IoT Hub & Device
2) Install raspberry-pi emulator and IIS (for static photos and scripts)
3) Create Native-react library for SIM908 and SdDisk for raspberry emulator
4) Update library loader sample.js and write raspberry-pi pseudo language sample.js to capture basic emulation principle
5) Create google account ID to use gmaps
6) Write a brand new node.js with gmaps and MQttp connection to the raspberry (via hub) to geolocate the `flying` databox
7) Create Azure Datastore account & container
8) Largerly adapt node.forms to implement file upload (so complex..) and communicate via MQttp to raspberry-pi

GitHub Source:
https://github.com/Azure-Samples/raspberry-pi-web-simulator
https://github.com/sitepoint-editors/node-forms
https://github.com/sysarchitek/DataBox-IOT-Emulator

Hardware & Services Used:
Windows 10 16go VM on Azure
Azure IOT hub & Azure Blob Storage
Google GMAPs

Software Used:
Node.JS, Native React, Eclipse , Node Eclipse, npm, IIS

YouTube Links:
3 (sorry :-*) Min: https://youtu.be/yg7ieQeYTSo
15 Min: https://youtu.be/Es7b7VV7s78