

## Week 7 Status Report

SE 491: Team sdddec19-24

DevOps Framework for IOT

Client / Faculty Advisor: Lotfi Ben Othmane

### Team Members:

Yussef Saleh	<i>Team Leader</i>
Matt Bechtel	<i>Chief Designer / Engineer</i>
Brett Wilhelm	<i>Assistant Programmer / Engineer</i>
Chakib Ahlouche	<i>Assistant Programmer / Engineer</i>

Git repositories for extensions mentioned below:

<https://git.ece.iastate.edu/sdddec19-24/iot-deployment-manager/>

<https://git.ece.iastate.edu/sdddec19-24/iot-deployment-service/>

### o Weekly Summary

This week marked the beginning of our deployment manager's git integration, starting with cloning via a simple 'git credential' file. To do this cloning routes were created in both the service and the manager to handle the uploading of a 'git credential' file. On the service side, the form is uploaded by the user, with the credential file as part of the form data. From here, the service extracts the file from the form and passes it off to the manager (this intermediate step to the deployment service will be very important in the future as the service will handle user verification and then in turn routing to the correct user's device). When the manager receives the credential file, it saves it to the disc in the specified location (determined by the environment variable \$FILE\_STORE\_PATH), and then uses the credentials in the file to attempt to clone the repository into the specified file store. As of now the cloning (initialization) can only be done via this credential file, but in the future there should be additional ways to go about it, such as via SSH or sending of credentials via query params.

The cloning of a directory is really the first step to kick off a deployment. Next will be to handle a startup script, provided by the client, to start the code housed in the directory that was cloned. Beyond that, we also need the manager to check the repository for updates, so that when new code is pushed, the manager automatically deploys it, we have not decided on design of this yet, whether it is via a githook or whether the manager simply uses a timer to check for updates, say once a minute.

For now, we are building the deployment service and deployment manager as stand alone projects, but there will be much integration to be done to get our new deployment service working with the existing hammer-io project, this will be done next semester after the design, and functionality, of the two services, iot-deployment-service and iot-deployment-manager, is significantly more fleshed out.

**o Past Week Accomplishments**

- Successfully created routing for both the service and manager to handle the cloning of a git repository via a git credential file upload from the user. As of now a credential file may be uploaded to the deployment service, passed off to the deployment manager, where the manager store the credentials and then use them to clone the repository into the specified fileStore directory.

**o Pending Issues**

- Yussef, Brett, and Chakib need to begin dev work.

o Individual Contributions

<u>Name</u>	<u>Individual Contributions</u>	<u>Weekly Hours</u>	<u>Total Hours</u>
Yussef	Pulled down the existing code in the repository and played around with routing requests in node.	7	28
Matt	<p>I added routes to both the service and the manager to handle a git credential file upload, and in turn clone the repository onto the device where the iot-deployment-manager is running (the IoT device). As of now, the only way to do the git clone is to upload a json credential file, but there are other ways that need to be added, such as via SSH or passing the credentials in the query params instead of in a json file. The addition of this functionality should be straight forward, and should require little change to the route itself, because the git cloning logic is done in a 'middleware' file, not directly in the route.</p> <p>Please checkout the repositories and read the git log, more information about implementation should be there.</p>	8	41
Brett	Code is now set up for further development on my machine, looked way more into the specifics of node and docker.	6	25
Chakib	<p>Researched a way to create routes to handle updated requests on the cloned repo .</p> <p>Get the cloned repo running by using users start scripts on the deployment manager .</p> <p>Played with html page on the deployment manager .</p> <p>Looked into ways to integrate out deployment manager with the existing hammer IO project</p>	8	30

o **Plans for Next Week**

- Work on the actual running of the code that was pulled down with the git clone. Add routes to both the service and the manager, to handle 'start', 'stop', and 'update' functionality. This might be interesting as there are a lot of little details to go along with deployment, for next week the functionality should be fairly basic.
- Beyond the Deployment Service and Manager functionality, we also discussed plans for next week regarding integration design. For that, Brett and Youssef will meet with the previous dev team to discuss the existing functionality and how we will approach our component integration with Hammer-io. By the end of the week next week there should exist a raw plan (research) for how to go about the integration, this will be integral part of our next project plan.

o **Summary of Advisory Meeting**

- Demoed the new 'git' functionality, demonstrating how a repository may be cloned on to the IoT device. Discussed plans for next week, including what will be next on the list for functionality development. Beyond the deployment service and manager functionality, we also discussed how we will go about integrating our new components with Hammer-io.