



Alpha Presentation Ford Accelerate Monitor

The Capstone Experience

Team Ford

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*From Students...
...to Professionals*

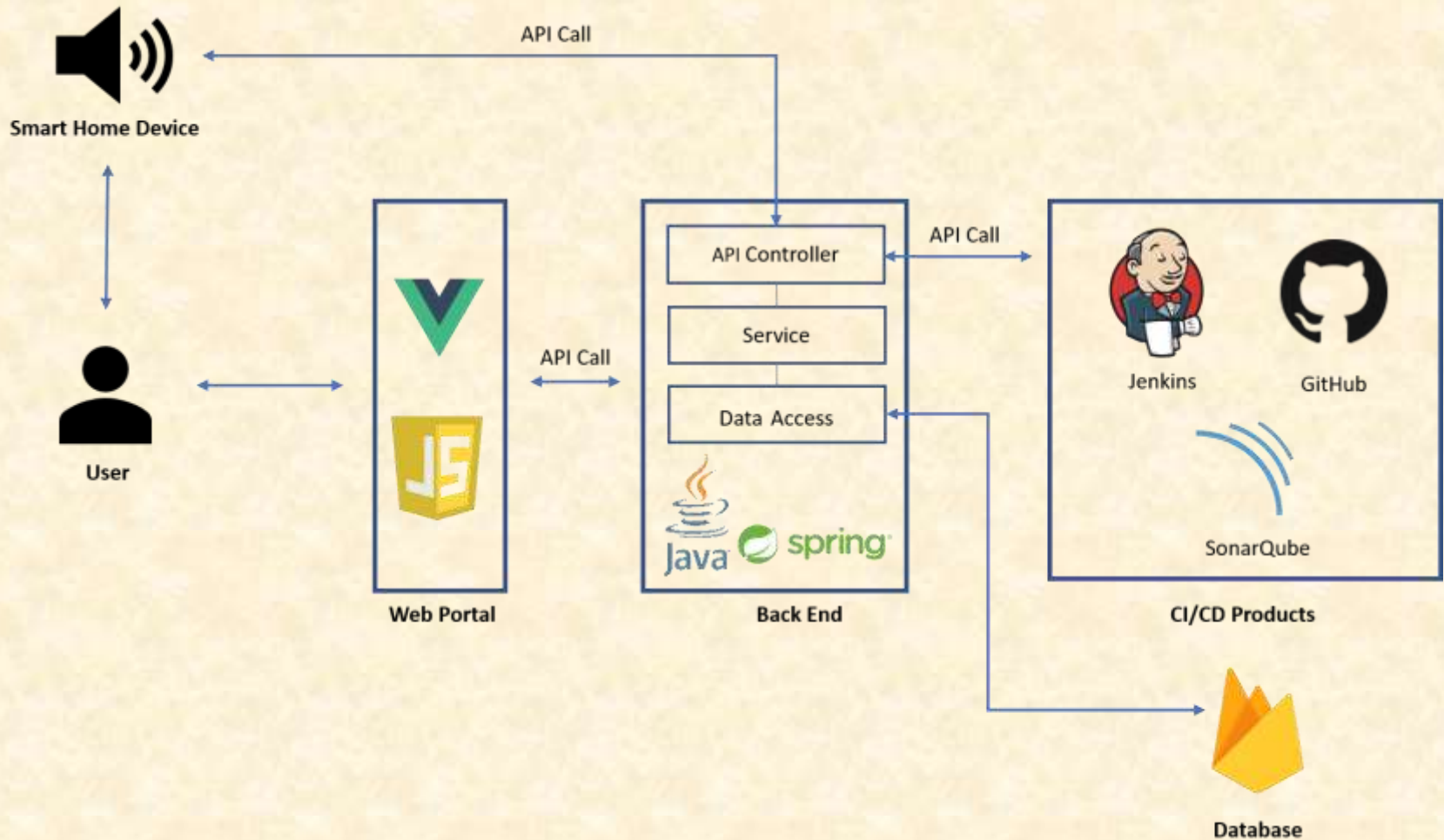
Department of Computer Science and Engineering
Michigan State University
Fall 2020

Project Overview

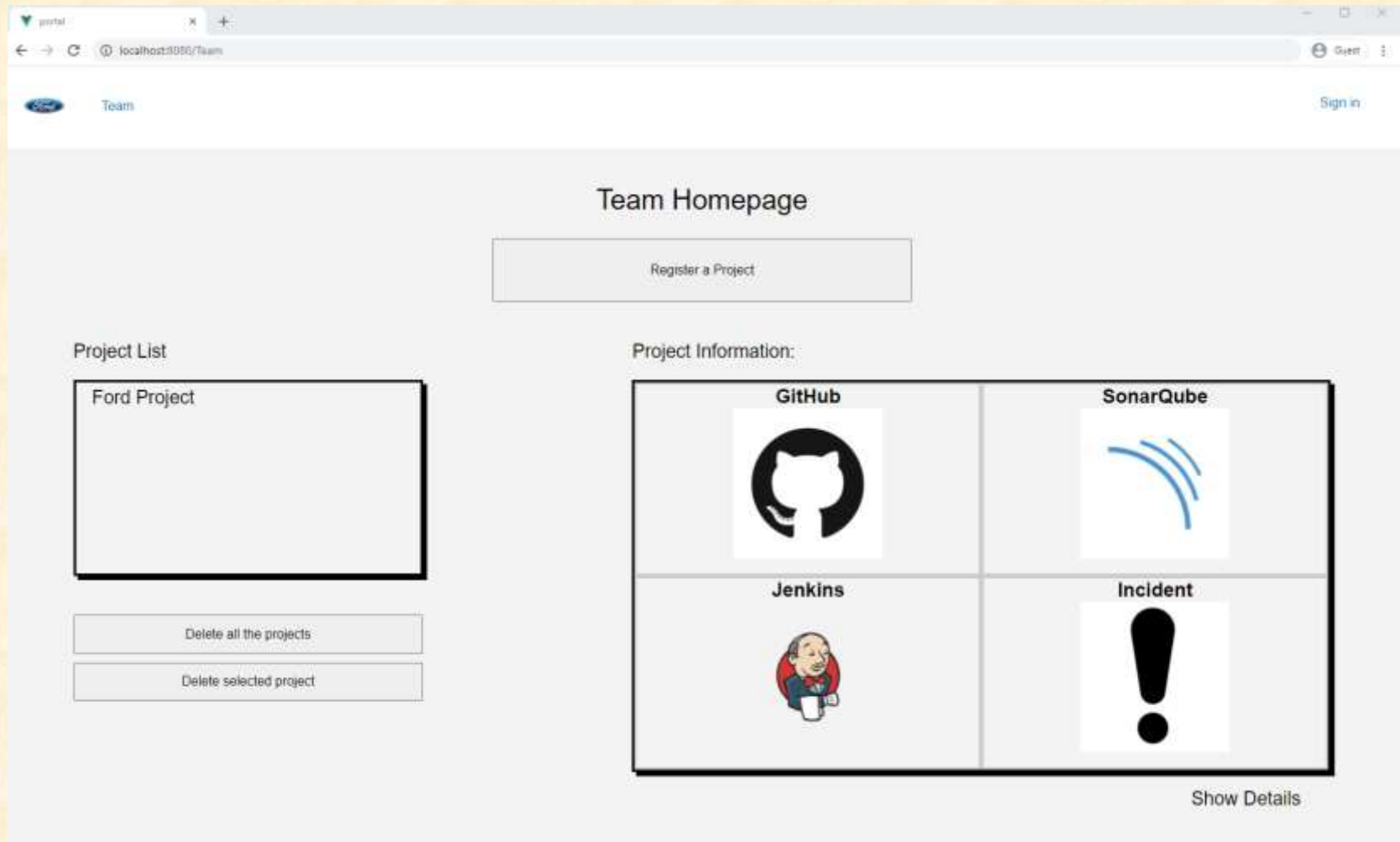
- Web Portal
 - Register teams, projects and products
 - Manage and edit information
- CI/CD Product Integration
 - Jenkins, GitHub, and SonarQube (stretch)
 - Software statistics calculated with data from products
- Smart Home Device Skill
 - Google Assistant and Alexa (stretch)
 - Retrieve software statistics for their team or project by asking structured questions



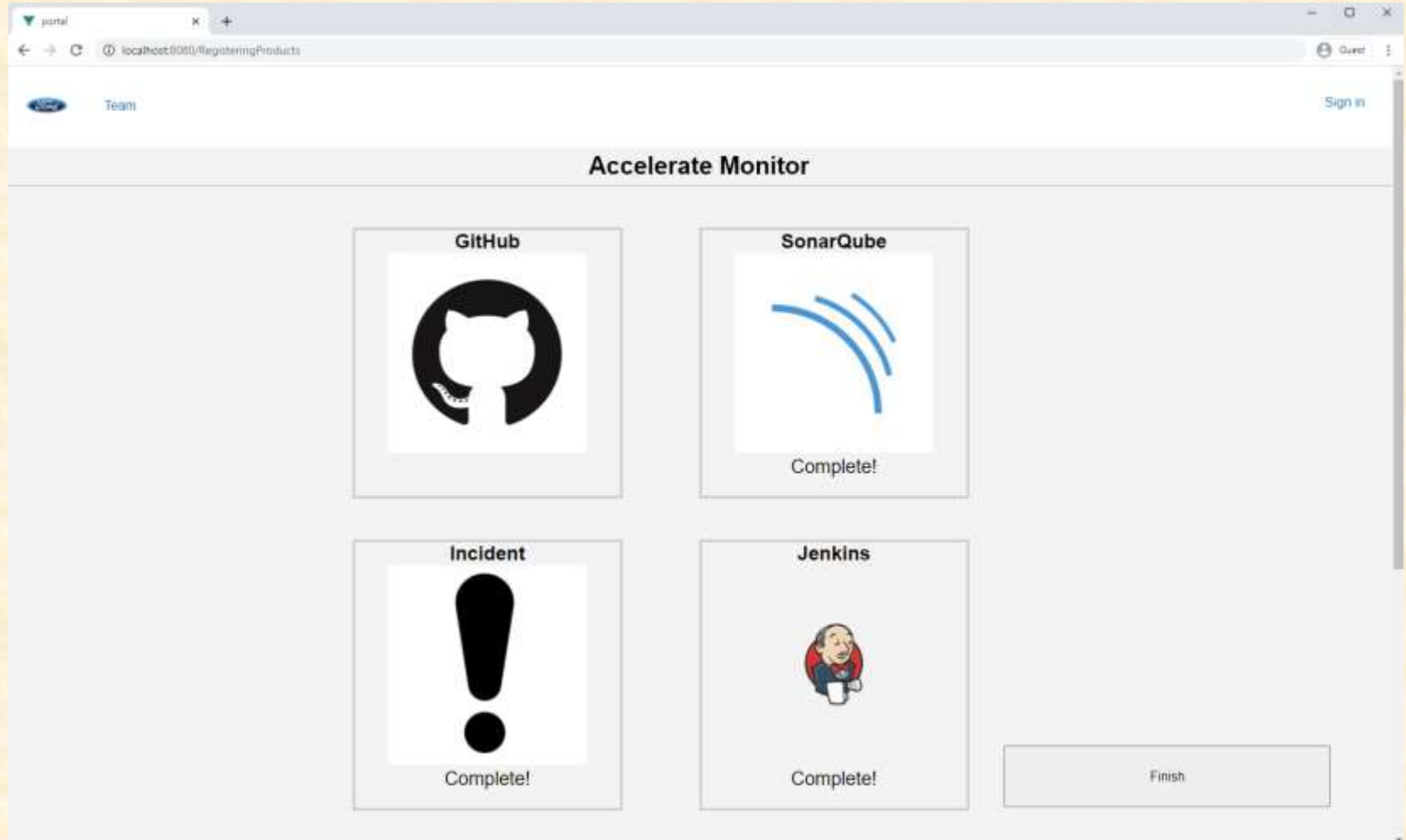
System Architecture



Team Homepage



Registering Products



GitHub Registration

portal x +

localhost:5080/Register Guest

Team Sign in

GitHub Registration

To register the GitHub repository used for your project, enter the following information:

Accelerate Monitor


<https://github.com/accelerateMonitor>

Ford

teamford2020


Save Return

SonarQube




Complete!

Incident



Complete!

Jenkins



Complete!



Project Information

The screenshot displays a web application titled "Team Homepage" with a "Sign in" button in the top right corner. The main content area is divided into three sections:

- Register a Project:** A button at the top center.
- Project List:** A box on the left containing the text "Ford Project Accelerate Monitor". Below this box are two buttons: "Delete all the projects" and "Delete selected project".
- Project Information:** A large box on the right containing details for two projects, organized into four quadrants.

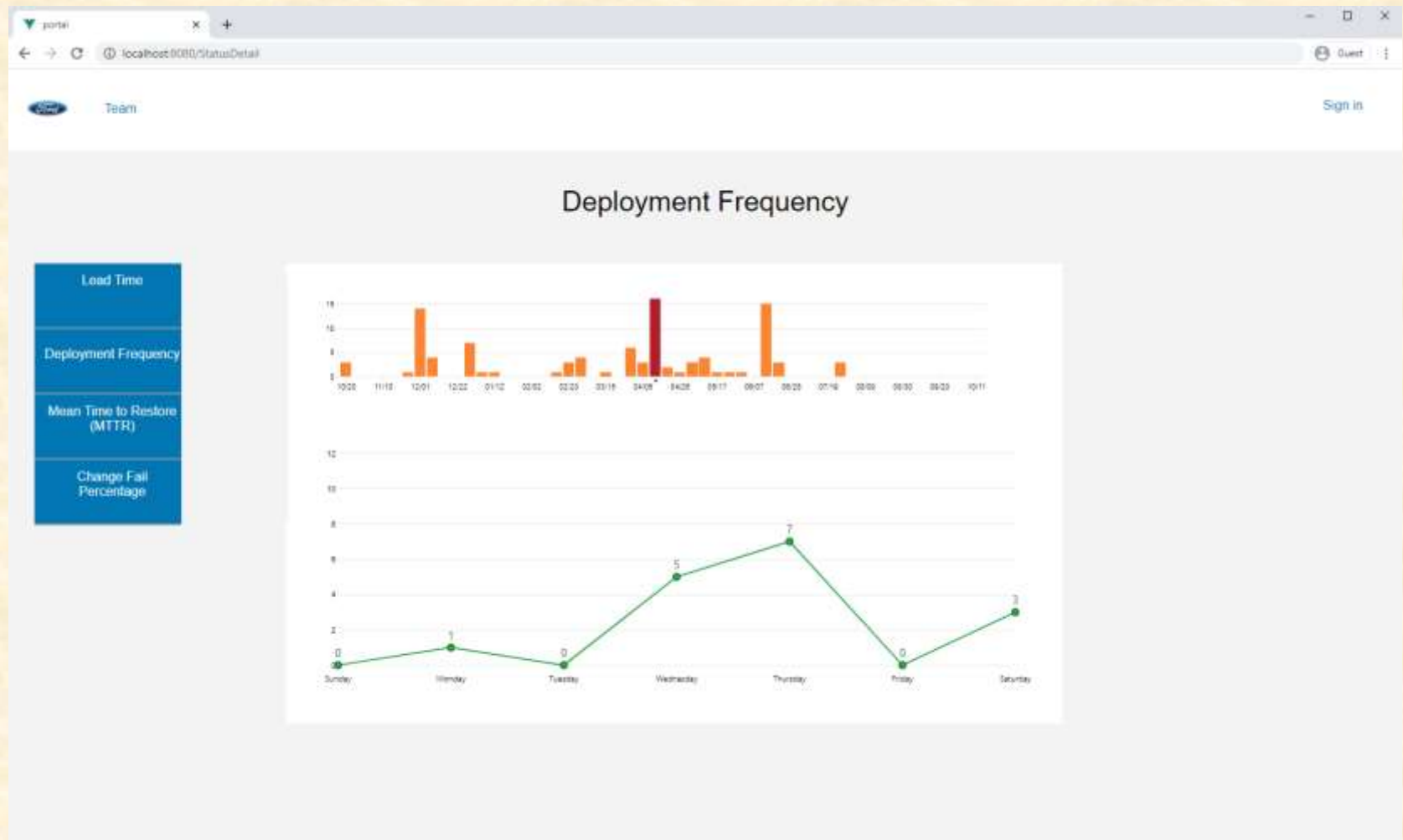
Project Information Details:

Project Name	Repo Name	Instance Name
Ford Accelerate Monitor	Accelerate Monitor	SonarQube Accelerate Monitor
	Repo URL: https://github.com/accelerateMonitor	Project URL: https://www.sonarqube.org/
	Username: Ford	Authentication Token: sonarqubeford
	Authentication Token: teamford2020	
Jenkins Accelerate Monitor	Jenkins Accelerate Monitor	Options: Spring actuator health endpoint
	Project URL: https://app.circleci.com/projects/AccelerateMonitor	
	Authentication Token: JenkinsFord	

At the bottom right of the Project Information section is a "Show Details" link.



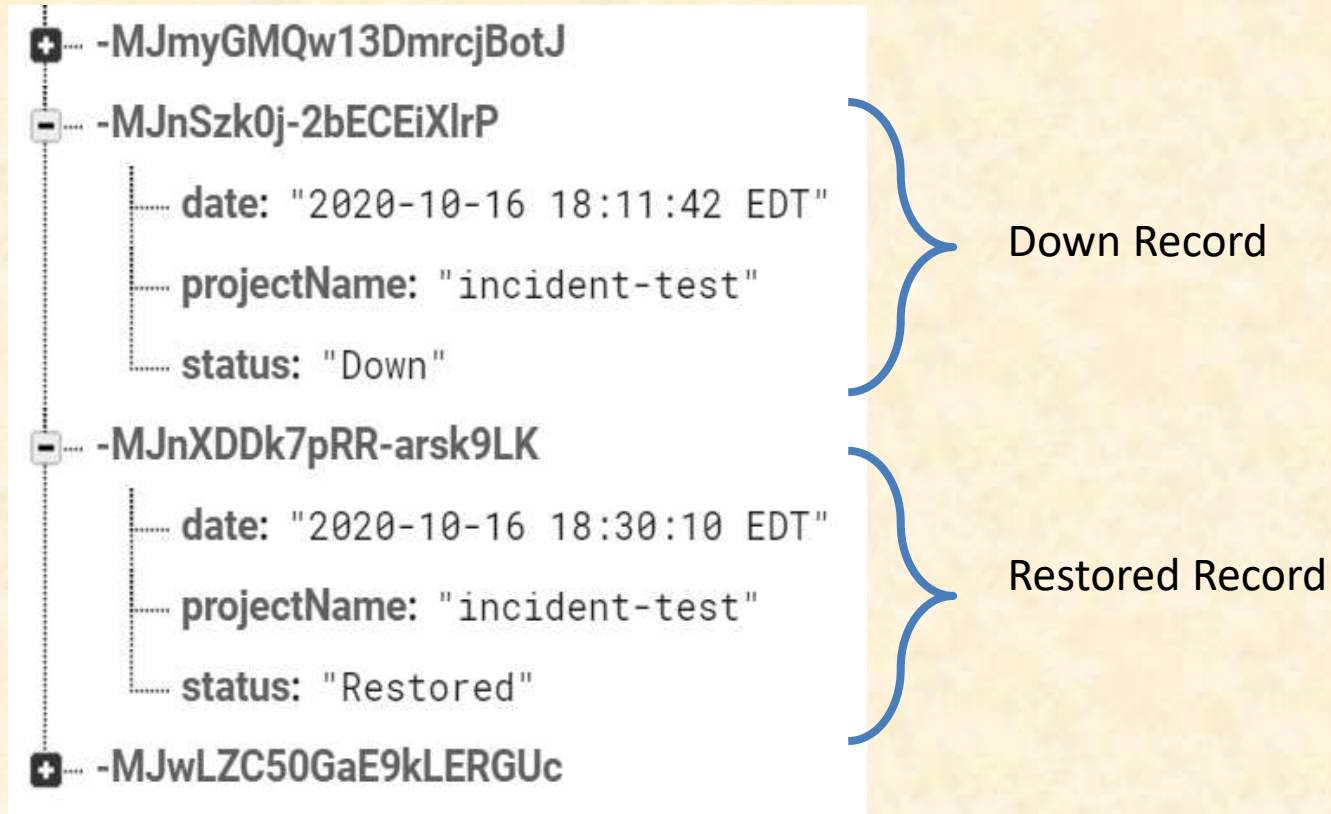
Deployment Frequency Statistics



Remaining Statistics

- Accelerate
 - Mean time to restore (MTTR)
 - Change fail percentage
 - Lead time
- Other
 - Build frequency
 - Commit frequency by team member

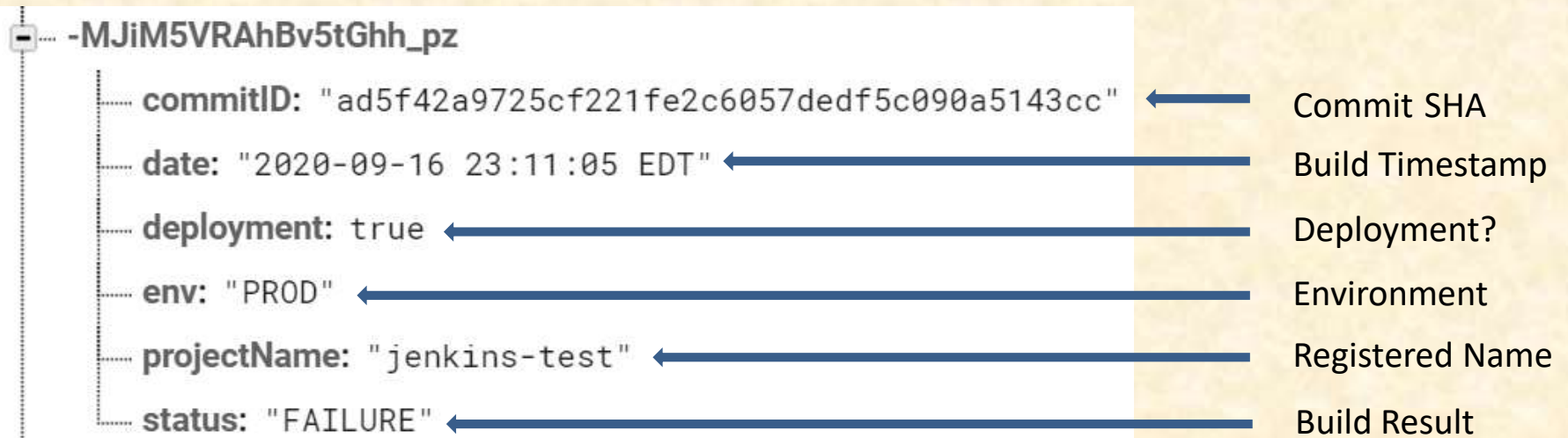
Mean Time To Restore



Incident Record in Database




Lead Time



Build Record in Database



Change Fail Percentage

 -MJiM5VRAhBv5tGhh_pz	
commitID: "ad5f42a9725cf221fe2c6057dedf5c090a5143cc"	Commit SHA
date: "2020-09-16 23:11:05 EDT"	Build Timestamp
deployment: true	Deployment?
env: "PROD"	Environment
projectName: "jenkins-test"	Registered Name
status: "FAILURE"	Build Result

Build Record in Database

What's left to do?

- Calculate remaining accelerate statistics
- Testing with Ford pre-production data
- Build failure notification
- Continue to refine UX of web portal
- Stretch goals
 - Create software statistics dashboard in web portal
 - Integrate SonarQube statistics
 - Add Alexa compatibility



Questions?

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