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I pledge my honor that I have abided by the stevens honor system. ztalarick

Scenario 1:
I would create a server using nodeJS express setting up middleware to log everything. I would also provide routes to configure what is logged. To store and query the data I would use mongoDB. Using mongo is better than say redis because the logging data must be stored for a long time, and not just all kept in the cache.

Scenario 2:
I would create a server using nodeJS express with a POST route to submit an expense report. I would store this report in a mongoDB. I would also create a route for when the expense is reimbursed that would look up the report being reimbursed and then use Latex to create a PDF and then use a nodeJS module nodemailer to email the PDF. For the web page templating I would use handlebars.

Scenario 3:
- nodeJS express web server running on a linux machine
    - Use linux because it never has to restart to update and is very stable.
- Provide CRUD routes to configure the tweet monitoring.
- Use twitter for nodeJS to get each tweet and store it in a mongoDB
- Use ImageMagick to edit and compress any media from each tweet to also be stored in the mongoDB
- Analyze each tweet using keywords, depending on the type of keyword use the nodeJS module nodemailer to email the alert to the correct officer.
- Log all the tweets that triggered an alert in mongoDB
- Use the nodeJS express server to create a frontend website using bootstrap and handlebars and long-polling to schedule requests by the website to update itself in real time display the threat level of certain tweets

Scenario 4:

- nodeJS express web server
- Use authentication techniques, storing hashed user info on a mongoDB and use authentication middleware and cookies
- Use google maps API, and either the iphone or android location data to handle the geographical parts.
- Use ImageMagick to edit and compress all data to be stored in a mongoDB for long term storage.
- Also use redis to store each image based on location for fast retrieval for a particular location