- A UML sequence diagram demonstrating what happens when a user sends a status. This sequence diagram should include front-end and back-end objects.

Back-End Architecture:

The back end is connected through the front end through API gateways. The gateways send requests to lambdas, which perform logic and data manipulation on the requests and send responses. The lambdas also connect to the persistence layer, a dynamo database. The lambdas create, read, update and delete objects in the database and return data to the front end.

DynamoDB Tables:

Authentication:
Used for login/logout functionality and ensuring that user data can't be altered when a user isn't logged in. Each item contains 3 fields: a primary key with a random string representing an auth token, the timestamp of when the user logged in, and the username associated with the auth token. The auth token is passed back and forth between the front end and back end to make sure all operations are allowed.

Story:
Contains all statuses ever posted on the site, sorted by the user who posted them and the timestamp of when the status was posted. Each item has the name of the author, the message that the status contains, and any attachments that the status may have.

Feed:
Contains all of the data in the Story table, but with an additional field representing users whose feed a status would appear in. For example, if John and Dave are following Jade, and Jade makes a post, there would be two entries for that status in the feed table- one for John's feed and one for Dave's.

Mentions:
Contains a list of statuses ordered by the tags that they contain. For example, a status with the message “I have a #cat with #stripes” would appear in the Mentions table twice- one under a “#cat” primary key and one with a “#stripes” primary key.

UserFollows:
Used to store followers and following data. Each item has a follower and a user who is being followed. The user is the primary key, and the follower is a global secondary index so the table can be queried to find all followers of a user or all users that a user follows.

Users:
Contains all user data for users of the site, including name, username, and a hashed password.