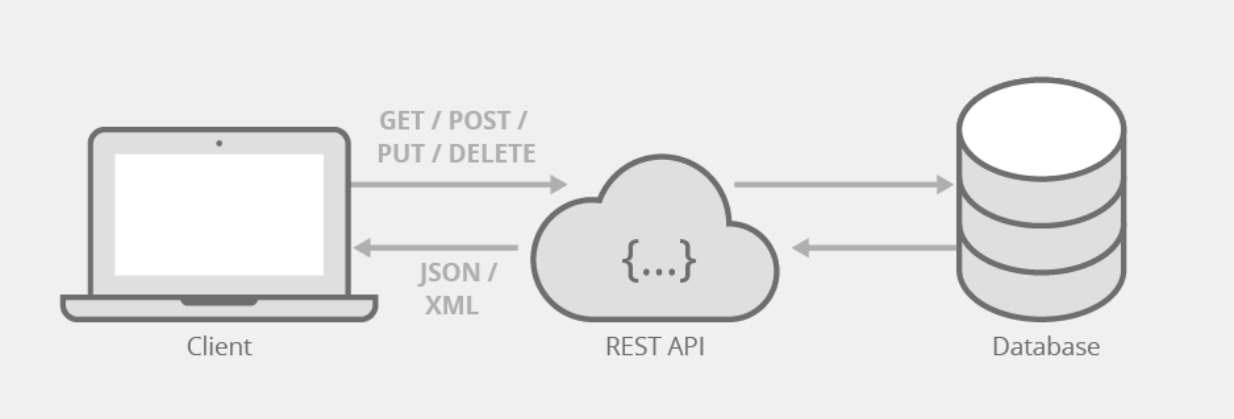
CEN 4010 Project Sequence

Project Scope

As a group, you will be creating a REST API for a fictitious bookstore.

A REST API is a web service which exposes HTTP routes that allow a client (mobile, web) to make a call via HTTP verbs (GET /POST / PUT / DELETE).

The REST API web service will interact with a database backend to modify the database.

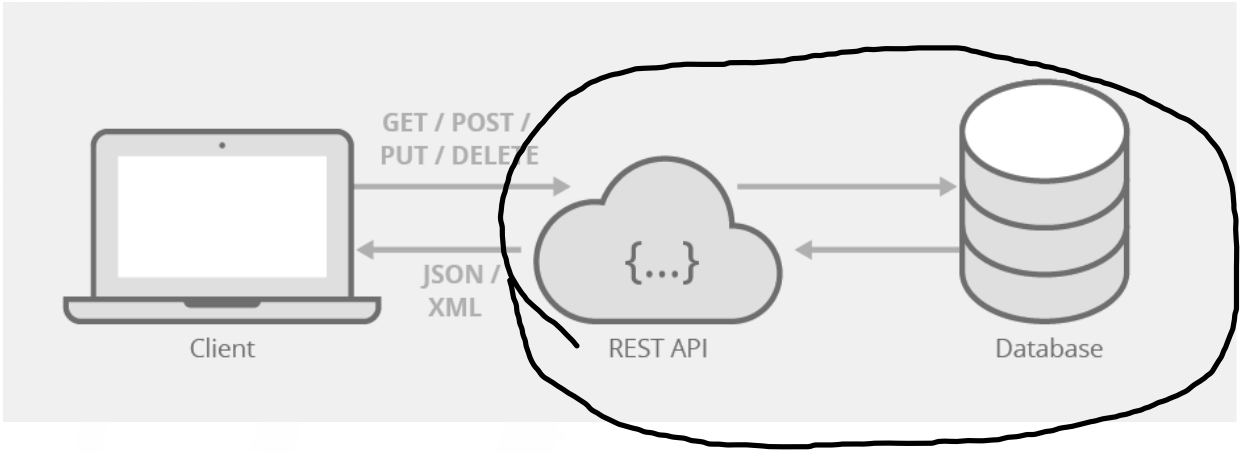


Project Scope

You will implement the web service and database for this project.

Ideally you should follow these high-level steps:

1. Select the technology for the web service and database.
2. Design the database based on the entities you are working with.
3. Populate the database with data.
4. Implement a GET Route that retrieves the data for your feature.
5. Work on the rest of the API routes in your feature.



Using Scrum as an Agile Framework

- Each Group will have a feature per person in the group.
  - 6 person team = 6 features
  - 4 person team = 4 features
- Each team member is responsible for one feature.
- All features must be under a unified Web Service project and be demoed as a single working service.

- Semester Timeline
  - Sprint 1 – Setup Sprint / Framework Learning
  - Sprint 2 - Framework Learning / Data Modeling and Data Seeding
  - Sprint 3 – REST functionality Implementation (Implement half of the HTTP routes)
  - Sprint 4 – Rest functionality Implementation (Implement rest of the HTTP routes)
  - Sprint 5 – Testing and Documentation

Using Scrum as an Agile Framework

Score Break Down

Individual Piece		Group Piece	
Feature Implementation	: 40	Scrum Execution	: 40
UML Diagrams	: 20	Integrated Product Demo	: 20
Total	60		60

Sprint 1 - Setup Sprint / Framework Learning

- Setup up communication standards for team
- Agree on which framework and backend to use
- Complete suggested API learning modules
- Set up Github account
- Install required software for development

Sprint 2 - Framework Learning / Data Modeling and Data Seeding

- Design your database
- Load your database with dummy data
- Create an example REST GET call to pull data
- Create your own Feature branch in Github (do this for every sprint)
- Record Team Video after Sprint

Sprint 3 – REST Implement functionality

- Create your own feature branch for this sprint.
- Check code into your feature branch
- Test your implementation
- Merge into Master branch
- Record Team Video after Sprint

Sprint 4 – REST Implement functionality

- Create your own feature branch for this sprint.
- Check code into your feature branch
- Test your implementation
- Merge into Master branch
- UML Diagrams due week 1 of sprint
- Record Team Video after Sprint

Sprint 5 – Test and Document

- Create your own feature branch for this sprint.
- Smoke Test: Test all of your HTTP routes in a sequence
- Create developer documentation
- Check code into your feature branch
- Test your implementation
- Merge into Master branch

- Github Integration due week 1

After Sprint 5

- Grading of Feature Implementation
- You will record a maximum 6 minute demo demonstrating that your REST API is functional.
- You will do this by using Postman or equivalent tool to make HTTP request, show the response and validating that it works.
- You must turn in this recording into your feature implementation assignment at an individual level.

- How to validate HTTP requests:
  - GET Request must show the correct data on the response data.
  - POST Request must show that the data was created in the database.
  - DELETE Requests must show that the data is delete in the database.
  - PUT/PATCH Requests must show the before and after data in the database.