



College of Engineering, Construction and Living Sciences  
Bachelor of Information Technology  
ID607001: Introductory Application Development Concepts  
Level 6, Credits 15  
**Practical: Node.js REST API Testing Research**

## Assessment Overview

In this assessment, you will be given a **Node.js REST API to API test**. You will be required to independently research & write at least **50 API tests** using **Mocha & Chai**. You will use these dependencies to verify the correctness of the given **Node.js REST API**. It includes **CRUD** operations, authentication, query parameters, status codes & the shape of response data. You will also check the coverage of your **API tests** using **nyc**. In addition, marks will be allocated for code elegance, documentation & **Git** usage.

## Learning Outcome

At the successful completion of this course, learners will be able to:

1. Design & build usable, secure & attractive applications with dynamic database functionality following an appropriate software development methodology.

## Assessment Table

Assessment Activity	Weighting	Learning Outcome	Assessment Grading Scheme	Completion Requirements
Practical: Node.js REST API Testing Research	20%	1	CRA	Cumulative
Project 1: Node.js REST API	30%	1	CRA	Cumulative
Project 2: React CRUD	50%	1	CRA	Cumulative

## Conditions of Assessment

You will complete this assessment during your learner-managed time. However, there will be time to discuss the requirements & your assessment progress during the teaching sessions. This assessment will need to be completed by **Friday, 13 May 2022 at 4.59 PM**.

## Pass Criteria

This assessment is criterion-referenced (CRA) with a cumulative pass mark of **50%** across all assessments in **ID607001: Introductory Application Development Concepts**.

## Submissions

You must submit all program files via **GitHub Classroom**. Here is the URL to the repository you will use for your submission – <https://classroom.github.com/a/Anc.bYhn>. The latest program files in the **main** branch will be used to mark against the **Functionality** criterion. Please test your **main** branch application before you submit. Partial marks **will not** be given for functionality in other branches. Late submissions will incur a **10% penalty per day**, rolling over at **5:00 PM**.

## Authenticity

All parts of your submitted assessment must be completely your work. If you use code snippets from **GitHub**, **StackOverflow** or other online resource, you **must** reference it appropriately using **APA 7th edition**. Provide your references in the **README.md** file in your repository. Failure to do this will result in a mark of **zero** for this assessment.

## Policy on Submissions, Extensions, Resubmissions & Resits

The school's process concerning submissions, extensions, resubmissions & resits complies with **Otago Polytechnic** policies. Learners can view policies on the **Otago Polytechnic** website located at <https://www.op.ac.nz/about-us/governance-and-management/policies>.

## Extensions

Familiarise yourself with the assessment due date. If you need an extension, contact the course lecturer before the due date. If you require more than a **seven days** extension, a medical certificate or support letter from your manager may be needed.

## Resubmissions

Learners may be requested to resubmit an assessment following a rework of part/s of the original assessment. Resubmissions are to be completed within a negotiable short time frame & usually must be completed within the timing of the course to which the assessment relates. Resubmissions will be available to learners who have made a genuine attempt at the first assessment opportunity & achieved a **D grade (40-49%)**. The maximum grade awarded for resubmission will be **C-**.

## Resits

Resits & reassessments are not applicable in **ID607001: Introductory Application Development Concepts**.

## Instructions

You will need to submit a **suite of tests** & documentation that meet the following requirements:

### Functionality - Learning Outcome 1 (60%)

- **API tests** are written using **Mocha** & **Chai**.
- At least **50 API tests** verifying the correctness of the following:
  - CRUD (create, read, update & delete) operations.
  - Authentication (register, login & logout).
  - Validation rules, i.e., checking if field is required, etc.
  - Query parameters, i.e., filtering & sorting data.
  - Status codes, i.e., checking if a response returns 200, 404, etc.
  - Shape of the data, i.e., does the response data contain a specific column?
- Code coverage using **nyc**.

### Code Elegance - Learning Outcome 1 (30%)

- Use of intermediate variables. No method calls as arguments.
- Idiomatic use of control flow, data structures & in-built functions.
- Sufficient modularity, i.e., setup method at the beginning of each test case.
- Functions & variables are named appropriately.
- File header comment explaining the purpose of each **API test** file.
- Code files are formatted using **Prettier**. You **need** to declare a **npm** script in your application's **package.json** file that automates this process. Rules **must** include:
  - Single quote is set to **true**.
  - Semi-colon is set to **false**.
  - Tab-width is set to **2**.
- **Prettier** & **nyc** are installed as development dependencies.
- No dead or unused code.
- Database configured for testing environment.

### Documentation & Git Usage - Learning Outcome 1 (10%)

- Provide the following in your repository **README.md** file:
  - How do you setup the environment for development, i.e., after the repository is cloned, what do you need to run the the **API tests** locally?
  - How do you run the **API tests**?
- Your **Git commit messages** should:
  - Reflect the context of each functional requirement change.
  - Be formatted using the naming conventions outlined in the following:
    - \* **Resource:** <https://dev.to/i5han3/git-commit-message-convention-that-you-can-follow-1709>

## Additional Information

- Attempt to commit at least **10** times per week. By the end of this assessment, you should have at least **40** commits.
- **Do not** rewrite your **Git** history. It is important that the course lecturer can see how you worked on your assessment over time.