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RESTful Web Service

CS-340: Client/Server Development

**Milestone Two: RESTful Web Service**

The specification for the second milestone called for the implementation of the actual REST API code, including API endpoints and the code required to transform requests to these API endpoints into calls to the data access layer created in Milestone 1. In an attempt to approach this project in as professional a manner as possible—and lacking any authoritative consesus as to the best approach to the problem—I've selected an architecture based roughly on that described by Cleary (2020). While this architecture adds additional complexity to the project that is likely unnecessary at this level, the additional learning experience seemed worth the effort. For ease of testing, all of the relevant `curl` commands were combined into a single shell script, interspersed with additional read requests and text to make the resultant output presentation-ready. The full script, `curls.sh`, is listed in Listing 1. Figure 1 shows the results of executing `curls.sh`.

```
#!/usr/bin/env bash

echo "Testing Create API Endpoint:"
curl \
    -H "Content-Type: application/json" \
    -X POST \
    -d @create.json \
    'http://localhost:3000/api/create'
echo ""

echo "Testing Read API Endpoint:"
curl 'http://localhost:3000/api/read?business_name=ACME+TEST+INC.'
echo ""

echo "Testing Update API Endpoint:"
curl 'http://localhost:3000/api/update?id=10011-2017-TEST&result=Violation+Issued'
echo ""

echo "Verification:"
curl 'http://localhost:3000/api/read?business_name=ACME+TEST+INC.'
echo ""

echo "Testing Delete API Endpoint:"
curl 'http://localhost:3000/api/delete?id=10011-2017-TEST'
echo ""

echo "Verification:"
curl 'http://localhost:3000/api/read?business_name=ACME+TEST+INC.'
echo ""
```

Listing 1: The Bash script used to generate output verifying correct operation of the four API endpoints.


Figure 1: Results of running `curls.sh` against the running Express application.

## References

Cleary, Corey. 2020. “Project Structure for an Express REST API When There Is No ‘Standard Way’ – Corey Cleary.” Blog. Corey Cleary. April 10, 2020. https://www.coreycleary.me/project-structure-for-an-express-rest-api-when-there-is-no-standard-way/.