POM.xml Fix Summary

Date

October 12, 2025

Overview

Fixed the `pom.xml` file in the raven-backend project to properly support DynamoDB integration with Quarkus, based on a working example from the budget-ls-server project.

Changes Made

1. Updated Quarkus Version

- **Before:** `3.5.0`
- **After:** `3.15.1`
- **Reason:** Align with the working example and get latest bug fixes and features

2. Added quarkus-amazon-services-bom to dependencyManagement

```xml
<dependency>
    <groupId>io.quarkus.platform</groupId>
    <artifactId>quarkus-amazon-services-bom</artifactId>
    <version>3.15.1</version>
    <type>pom</type>
    <scope>import</scope>
</dependency>
```

- **Reason:** This BOM (Bill of Materials) manages all AWS-related dependency versions consistently

3. Fixed DynamoDB Dependency

- **Before:**
  ```xml
  <dependency>
        <groupId>io.quarkus</groupId>
        <artifactId>quarkus-amazon-dynamodb</artifactId>
  </dependency>
  ```
- **After:**
  ```xml
  <dependency>
        <groupId>io.quarkiverse.amazonservices</groupId>
        <artifactId>quarkus-amazon-dynamodb</artifactId>
  </dependency>
  ```
- **Reason:** The correct groupId for Quarkus AWS extensions is `io.quarkiverse.amazonservices`, not `io.quarkus`. This was causing dependency resolution issues.

4. Added url-connection-client Dependency

```xml
<dependency>
    <groupId>software.amazon.awssdk</groupId>
    <artifactId>url-connection-client</artifactId>
</dependency>
```

- **Reason:** This is the AWS SDK HTTP client implementation required for DynamoDB operations. Without it, the application may fail at runtime when trying to connect to AWS services.

5. Updated Maven Plugin Versions

- **compiler-plugin:** `3.11.0` → `3.13.0`
- **surefire-plugin:** `3.1.2` → `3.3.1`
- **Reason:** Use more recent, stable versions of Maven plugins

6. Added Native Profile

Added a native build profile for GraalVM native compilation support:

```xml
<profile>
    <id>native</id>
    <activation>
        <property>
            <name>native</name>
        </property>
    </activation>
    ...
</profile>
```

Files Updated

1. `/home/ubuntu/github_repos/raven-backend/pom.xml`
2. `/home/ubuntu/code_artifacts/quarkus-dynamodb-raven/pom.xml`

Validation

✓ Both pom.xml files are well-formed XML
✓ Found 2 BOMs in dependencyManagement section
✓ DynamoDB dependency correctly uses `io.quarkiverse.amazonservices` groupId
✓ url-connection-client dependency added

Key Benefits

1. **Proper Dependency Management:** The BOM approach ensures all AWS SDK and Quarkus dependencies use compatible versions
2. **No Version Conflicts:** Dependencies no longer specify explicit versions; they inherit from BOMs
3. **Runtime Reliability:** url-connection-client ensures AWS SDK can make HTTP calls
4. **Future-Proof:** Upgrading Quarkus version is now simpler (just change one property)

Testing Recommendations

1. Run `./mvnw clean compile` to verify dependencies resolve correctly
2. Test DynamoDB operations to ensure they work as expected
3. Verify application starts without dependency errors
4. Test both development and production configurations

References

- Working example: `/home/ubuntu/Uploads/user_message_2025-10-12_15-17-57.txt` (budget-ls-server project)
- Quarkus Amazon Services: https://quarkiverse.github.io/quarkiverse-docs/quarkus-amazon-services/dev/
- Quarkus BOM Documentation: https://quarkus.io/guides/platform