Response To SiriusIQ Full Stack Developer Test

# Technologies

.NET Core 2.0, Entity Framework Core, Azure, Angular 4+, Bootstrap

# Design

## Major Domain classes



## Major Database diagram

Use Entity Framework Core automatically migration to generate the following major database



## Architect Component



### ECommerceDB

A SQL database, can be deployed as Azure SQL database;

### Ecommerce Restful API

A restful API is implemented by using ASPNET CORE. Can be deployed as Azure web apps (App service) or API management. This API has the following features:

1. Use JWT tokens with Bearer authentication;
2. Authorization;
3. Swagger support;
4. Data format can be xml or json;
5. API can also support Cors policy settings.
6. Use dependent injection;
7. Apply SOLID principles;
8. Repository Patten.

### Ecommerce Web

A standard ASPNET CORE host single page application. Can be self host or deployed as Azure web apps (App service), etc. It has the following features:

1. Use ASPNET CORE for easy setup some configurations such as Cors policy to consume API;
2. Use Angular 4+
3. Call API use authorization scheme;
4. Currently implement product filter/search, product details with display reviews, login, shopping cart, check out functions. Have not implement out of stock function. Just consider as large enough. But we use Azure function to monitor the new order for continue processing such as order fulfillment, shipping, product stock inventory, etc.

### Backend Service

1. Order and product inventory processor

1)Create order API call ITrackOrderService.ProcessNewOder to put order information in a message queue (eg. Azure Service Bus queue).

2)Azure function (Order and product stock processor) handle the new order for continue processing such as shipping, product stock inventory, etc.

1. Product review processor

1) Create/edit product review API call ITrackReviewService.ProcessReview to put review information in a message queue (eg. Azure Service Bus queue).

2)Azure function (Product review processor) handle the new review for continue processing such as profanity check, etc.

# Hosting:

See the above discussion. Not done because of budge. But can setup devOps, CI/CD, and etc.