# John Hancock Project Coeus Backend REST API Assembly Specification

# Project Overview

## System Description

Currently, various JH business units within the US Division have their own risk assessment process. Some business units are more advanced than others. The process involves assessing the risks of many functions and reporting on results. This siloed approach leads to a lack of consistency in regards to data input, templates, frequency of assessments and reporting at the US Division Operations level. Furthermore, there is no tool or means of capturing an overall inventory of controls.

This project will build a tool to capture and assess risks and controls data at the function level across various Business Units within US Division Operations

This architecture covers both backend and frontend implementations.

This assembly will implement the data models, exceptions, backend services, filters and controllers.

## Competition Task Overview

A complete list of deliverables can be found in the TopCoder Assembly competition Tutorial at:

<http://apps.topcoder.com/wiki/display/tc/Assembly+Competition+Tutorials>

*Note: Extensive implementation notes are provided at method documentation on UML Class Diagrams. Please follow them for implementation.*

*Note: Please read the whole Application Design Specification first. All the details not mentioned in this specification are provided in that document.*

## *DDL*

The ERD is provided, the complete database schema(DDL) should be generated. Please refer to ADS 1.3.4 for details.

### Model Classes

This assembly is responsible for implementing all model classes on class diagram "Entities Class Diagram".

## *Exceptions*

This assembly is responsible for implementing all exceptions on class diagram "Exceptions Class Diagram".

## *Backend Services*

This assembly is responsible for implementing all services on class diagram "Services Class Diagram".

### API Controllers & Supporting Classes

This assembly is responsible for implementing all controllers and supporting classes on class diagram "API Controllers Class Diagram"

## Technology overview

* Windows Server 2008+ / Azure with .NET Framework 4.5 installed
* SQL Server 2012
* Microsoft IIS 8.5
* C# 5.0
* .NET Framework 4.5
* ASP.NET Web API 2.2
* HTML5
* Unity 3.5 <http://unity.codeplex.com/>
* Log4net 1.2.13 <http://logging.apache.org/log4net/>
* AngularJS 1.2.28 <https://angularjs.org>
* Microsoft OpenXML SDK 2.0 <http://msdn.microsoft.com/en-us/office/ee358824.aspx>
* ClosedXML 0.76.0 <https://closedxml.codeplex.com>
* jqplot 1.0.9: <http://www.jqplot.com/>
* Flee 0.9.26.0: <http://flee.codeplex.com/>

## Existing Documents

* Class Diagrams
* Sequence Diagrams
* Application Design Specification
* Assembly Specification
* REST API Specification
* ERD