

## MSA Assessment Introduction

This is a comprehensive assessment where you will be ranked against your peers. The MSA team has set a minimum standard that we require all students to pass but will be expecting to see work well above and beyond the minimum specifications (as per industry standards).

Students will be placed in teams with similar assessment scores, and your placement preference is weighted against your group's overall assessment score, along with organisational preference and student preference.

## Academic Integrity

The MSA Programme strictly enforces academic integrity and students that do not uphold academic integrity will not be allowed to proceed within the programme. Any work you submit should be your work and differentiated from others if you have collaborated or troubleshooted with other parties. This includes any sample solutions and tutorials we provide. Please clarify with us at [nzmsa@microsoft.com](mailto:nzmsa@microsoft.com) if you have questions.

## Submission Format

You will be required to complete two specific submission tasks

- 1) Upload your source code at <http://msa.ms/upload> before the assessment day.
- 2) Present to the MSA team in-person at the assessment centre
  - a. Presentations are 15 minute slots
  - b. 7 minutes of presentation, with 7 minutes of Q&A from MSA team
  - c. You should do a structured presentation using the given slide deck or your own
  - d. Holistically, we will be assessing your intricate understanding of your solution, it's application in the real world and your presentation / soft skills.
  - e. At detail, we will be assessing your technical skill.

Deadline: Refer to your location deadline.  
No extensions will be provided.

Submission is at assessment centre.  
Upload your code here: <http://msa.ms/upload>

Have a question?

Email [nzmsa@microsoft.com](mailto:nzmsa@microsoft.com) or ask on the Facebook group – <http://msa.ms/group>.

# Contoso Bank Limited

## Project Description

Today is your first day as a graduate software developer in the Innovation Team at Contoso Bank – an award-winning bank that is going through digital transformation to better serve customers. Your colleagues are investigating “**Conversations as a Platform**”, and have tasked you with building a Proof of Concept bot. The Business Analyst has drafted up priorities in order of importance (Basic, Advanced, Additional). You have until the 30<sup>th</sup> of November to build and pitch it to the team to show you can be successful in the Innovation Team.

## Basic Requirements

- Build a bot using the Microsoft Bot Framework
- The bot must be built using NodeJS or C#
- The bot must be hosted on a Microsoft Azure App Service.
- Build a database, schema and dummy data to be used by the bot (EasyTables with SQL)
- Integrate the bot with the database you have created (Create, Read, Delete). *Can Update too if practical.*
- Use source control efficiently and correctly (uses branches, continuous integration, commits, etc)
- The bot should be published (can be in test mode) to a social media connection
- Offer some form of personalisation
- The bot should use a relevant UI (Cards, presentation of data in a friendly manner, etc)
- An API call to a relevant, external API (e.g. currency rate, stocks, etc)
- Comprehensive, trained, LUIS natural language integration for conversations.
- Integration with Cognitive Services (with multiple cases). We recommend custom vision API.
- Business justification for the use of features

## Advanced Requirements

**Implement one of the below. These are required for your solution but will not determine if you pass or fail the assessment. We will fail students that do not tangibly attempt the below.**

- Creation and usage of custom branding that is integrated into the bot and/or product.
- Unit Testing implemented across all major code classes.
- Consideration or features designed to assist with accessibility.

## Additional Features

Complete ONE of:

- Interaction with a mobile, cross platform app.
- Integration with *responsive* website.
- Your own custom implementation for use by end users, FOR EXAMPLE:
  - o A Windows 10 Mobile app
  - o A Universal Windows Platform app
  - o A HoloLens app
  - o An Android or iOS application

**Your solution must be demo ready – you must not use the Bot Emulator in your presentation.**