Code Challenge - Software Engineer

IT & Change – Engineering Team

## 

## Introduction/Instructions

This document details the Interview coding challenge we expect to be completed within the time limit stipulated below. If you have any issues with the challenge, email [david.ayres@downing.co.uk](mailto:david.ayres@downing.co.uk)

# How we expect code to be shared with us

We expect the finished code project to be delivered in a .zip file.  
You can deliver these to us by the following means

1. https://github.com/ repository
2. Google Drive / Dropbox.

If anything is unclear, email [david.ayres@downing.co.uk](mailto:david.ayres@downing.co.uk) for instructions. Please ensure that the code compiles and runs after extraction from the .zip, ensure NPM/Nuget/(any other package sources) are not included and add your full name to the .zip file name.

# Expected time to complete both

We expect the challenges to be completed in 1-2 days.

## Challenge

# Prerequisites

Extract the **downing-interview-project.zip** file and use the contents as a basis for your solution. There is an “Interview Project Guide.docx” guide to help you get started.

# Scenario

We need a system to manage all the UK (United Kingdom) companies that Downing invests in. The system should be easy to use but also robust, scalable, and open to extensibility.

# User stories

|  |  |
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| User story | Acceptance criteria |
| As an investment manager I want to be able to view a list of companies | On the home page add navigation to a new "Companies" page  Users should be presented with a "Companies" screen which has a table containing a list of companies. The table should have columns:  - Name  - Code  - Current share price  - numeric  - up to 5 decimal places  - Created date  - in format 01-Nov-2022   The table should be sorted alphabetically by "Name" |
| As an investment manager I want to be able to create a new company | When the user wishes to create a new company, they should click "New company" on the "Companies" page, which will take them to the "New company" screen  The user must enter a company name  - mandatory  - accepts alpha, numeric, and special characters  - max length of 100 characters   The user must enter a company code  - mandatory  - accepts alpha and numeric characters only  - alpha characters must be uppercase  - max length of 10 characters   The user can enter a share price  - optional  - numeric only  - maximum of 5 decimal places   The user must click a "Save" button to save the new company to the database  If any of the fields are invalid the "Save" button should be disabled  If any of the fields are invalid a message must be displayed informing the user what needs correcting  When the fields are all valid the "Save" button should be clickable  The company code must be unique. If it already exists in the database, the user must be informed that there is already a company with that company code.  When the company is saved to the database the created date and time must be stored  When the database record is created successfully the user should be redirected to the "Companies" screen, and the new company should now be in table  If an error/exception occurred during the creation of the database record, the user should be informed |