CarFinance 247

Phoenix Interview Technical Test

For this test you will be using C#, HTML5 and JavaScript to build a web application for a restaurant to manage table bookings. The template solution provided you is set up to use AngularJS, however you are free to use any other JavaScript framework or additional libraries you like.

Each task is designed to get progressively harder in order to challenge anyone from a graduate to 2 years' experience. Therefore, completing the entire test is not mandatory or expected for all candidates.

Please spend no longer than 48 hours on this test. If you run in to any problems or have any questions, please email: tom.sykes@carfinance247.co.uk

Tips to getting started:

The template solution contains two Web API controllers: "Alive" and "Booking". When you run the project the project the browser will open to http://localhost:52363. This will make a call to the alive controller and you'll see "Hello World!" displayed – that's how you know the project is running correctly.

If you make a request to http://localhost:52363/booking then the booking Web API controller will hit the GET method – and return all bookings.

If you navigate to http://localhost:52363/Index.html# your index.html will be hit, and your UI will be displayed.

1. Using JavaScript, make a request to the Web API controller to GET all bookings and display the results within a table.

Contact Name	Contact Number	No of Diners	Table Number	Booking Time
Mark Quinn	07826374821	4	1	25/06/2017 14:00
Callum Evans	07326372821	1	3	25/06/2017 16:00
Tom Sykes	07826374521	3	2	25/06/2017 15:00
Nicole Taylor	07026374521	10	4	25/06/2017 11:30
Stephen Baker	07826124521	6	3	25/06/2017 21:15
Henry Ho	07126124521	7	1	25/06/2017 21:00

2. Order the table by booking time.

Contact Name	Contact Number	No of Diners	Table Number	Booking Time
Nicole Taylor	07026374521	10	4	25/06/2017 11:30
Mark Quinn	07826374821	4	1	25/06/2017 14:00
Tom Sykes	07826374521	3	2	25/06/2017 15:00
Callum Evans	07326372821	1	3	25/06/2017 16:00
Henry Ho	07126124521	7	1	25/06/2017 21:00
Stephen Baker	07826124521	6	3	25/06/2017 21:15

3. Display bookings with more than 6 diner's as red.

Contact Name	Contact Number	No of Diners	Table Number	Booking Time
Nicole Taylor	07026374521	10	4	25/06/2017 11:30
Mark Quinn	07826374821	4	1	25/06/2017 14:00
Tom Sykes	07826374521	3	2	25/06/2017 15:00
Callum Evans	07326372821	1	3	25/06/2017 16:00
Henry Ho	07126124521	7	1	25/06/2017 21:00
Stephen Baker	07826124521	6	3	25/06/2017 21:15

4. Display bookings with only 1 diner as blue.

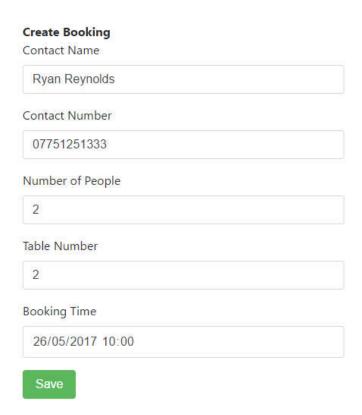| Contact Name	Contact Number	No of Diners	Table Number	Booking Time
Nicole Taylor	07026374521	10	4	25/06/2017 11:30
Mark Quinn	07826374821	4	1	25/06/2017 14:00
Tom Sykes	07826374521	3	2	25/06/2017 15:00
Callum Evans	07326372821	1	3	25/06/2017 16:00
Henry Ho	07126124521	7	1	25/06/2017 21:00
Stephen Baker	07826124521	6	3	25/06/2017 21:15

5. Add a button to the top of the table.

New Booking

Contact Name	Contact Number	No of Diners	Table Number	Booking Time
Nicole Taylor	07026374521	10	4	25/06/2017 11:30
Mark Quinn	07826374821	4	1	25/06/2017 14:00
Tom Sykes	07826374521	3	2	25/06/2017 15:00
Callum Evans	07326372821	1	3	25/06/2017 16:00
Henry Ho	07126124521	7	1	25/06/2017 21:00
Stephen Baker	07826124521	6	3	25/06/2017 21:15

6. When the user clicks the "New Booking" button, navigate to a Create Booking page.

Create Booking

Contact Name

Contact Number

Number of People

Table Number

Booking Time

dd/mm/yyyy --:--

Save

7. Add a Create root on the API which will call the existing CreateBooking service method. Modify this service method so when the user clicks Save, the new booking is added to the bookings list.

Note: New bookings should have a unique BookingId, which is higher than the maximum existing BookingId. I.e. if you have 3 existing bookings with ids: 1, 5 and 9, the next booking Id will be 10.

Create Booking

Contact Name

    Ryan Reynolds

Contact Number

    07751251333

Number of People

    2

Table Number

    2

Booking Time

    26/05/2017 10:00

    Save

8. On a successful save, the page should automatically navigate to the bookings page.

New Booking

Contact Name	Contact Number	No of Diners	Table Number	Booking Time
Nicole Taylor	07226374521	10	4	25/06/2017 11:30
Mark Quinn	07826374821	4	1	25/06/2017 14:00
Tom Sykes	07826374521	3	2	25/06/2017 15:00
Callum Evans	07326372821	1	3	25/06/2017 16:00
Henry Ho	07126124521	7	1	25/06/2017 21:00
Stephen Baker	07826124521	6	3	25/06/2017 21:15
Ryan Reynolds	07751251333	2	2	26/06/2017 10:00

9. Run the unit tests for the Web Api project.

Failed Tests (8)

- ❌ CreateBooking_InvalidTableNumber_NegativeNumber_ThrowsArgumentOutOfRangeException
- ❌ CreateBooking_InvalidTableNumber_TooHigh_ThrowsArgumentOutOfRangeException
- ❌ CreateBooking_InvalidTableNumber_TooHigh_ThrowsArgumentOutOfRangeExceptionWithMessage
- ❌ CreateBooking_InvalidTableNumber_TooLow_ThrowsArgumentOutOfRangeExceptionWithMessage
- ❌ CreateBooking_InvalidTableNumber_Zero_ThrowsArgumentOutOfRangeException
- ❌ CreateBooking_NullBooking_ThrowsArgumentNullException
- ❌ CreateBooking_Valid_BookingAddedToBookings
- ❌ CreateBooking_Valid_BookingIdIncrementsMaxId

Modify your CreateBooking service method so that all unit tests pass.

Passed Tests (8)

- ✅ CreateBooking_InvalidTableNumber_NegativeNumber_ThrowsArgumentOutOfRangeExceptio
- ✅ CreateBooking_InvalidTableNumber_TooHigh_ThrowsArgumentOutOfRangeException
- ✅ CreateBooking_InvalidTableNumber_TooHigh_ThrowsArgumentOutOfRangeExceptionWithMe
- ✅ CreateBooking_InvalidTableNumber_TooLow_ThrowsArgumentOutOfRangeExceptionWithMes
- ✅ CreateBooking_InvalidTableNumber_Zero_ThrowsArgumentOutOfRangeException
- ✅ CreateBooking_NullBooking_ThrowsArgumentNullException
- ✅ CreateBooking_Valid_BookingAddedToBookings
- ✅ CreateBooking_Valid_BookingIdIncrementsMaxId

10. Finally, allow users to edit an existing booking.

I.e. User clicks on Nicole Taylor's row.

Contact Name	Contact Number	No of Diners	Table Number	Booking Time
Nicole Taylor	07026374521	10	4	25/06/2017 11:30

An "Edit Booking" page is displayed.

Edit Booking

Contact Name

> Nicole Taylor

Contact Number

> 07226374521

Number of People

> 20

Table Number

> 4

Booking Time

> 25/05/2017 12:00

Save

The user modifies the booking and clicks save. On a succesful save, the page automatically navigates to the table view where the booking has been updated.

New Booking

Contact Name	Contact Number	No of Diners	Table Number	Booking Time
Nicole Taylor	07226374521	20	4	25/05/2017 12:00

From here you're free to expand and demonstrate any skills you like. Some suggestions:

- Replace the Json file with a database
- Improve page styling
- UI Unit Tests (i.e. Jasmine)