

Wrapping BBEC WebAPI with a Custom Webservice

David Moll for the University of Michigan

Hi!

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Hometown: Rochester, NY

Interesting fact #1! – I worked at NASA's JPL in Pasadena, CA for a summer.

Interesting fact #2! – My first computer was an Apple IIc

BBEC at U-M

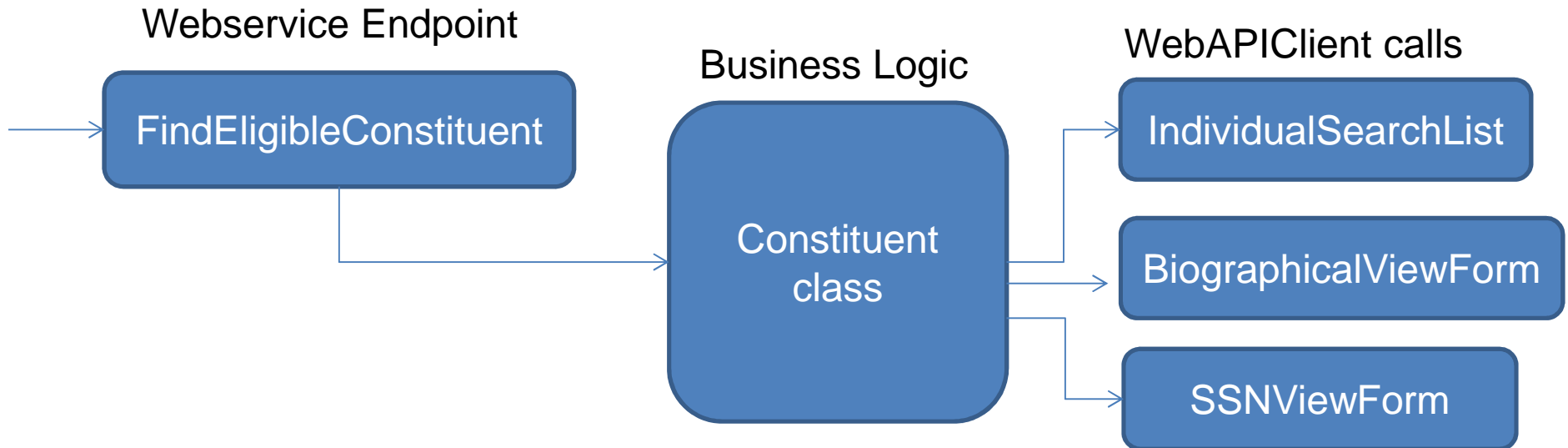
DART – Donor Alumni Relationship Tool
1.7 million individual constituents

Yes, we had a naming contest.

Creating a new username

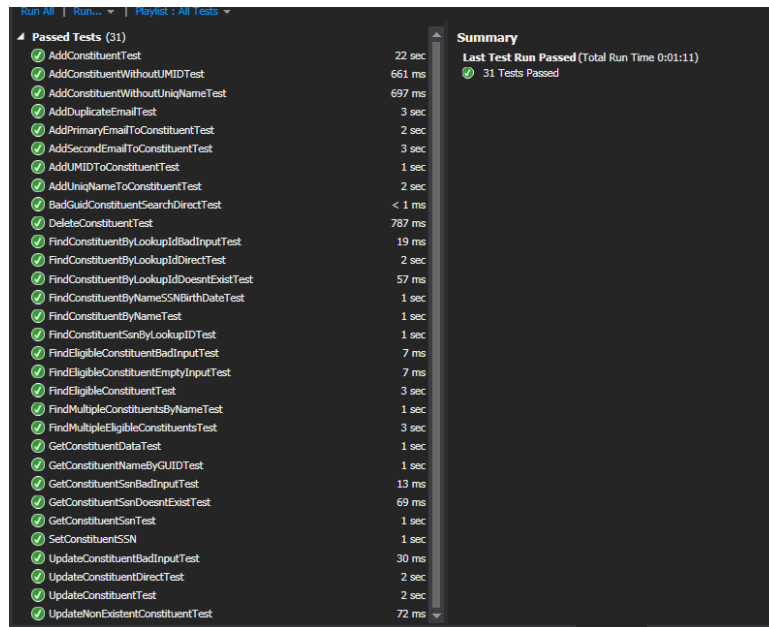


Custom Webservice Architecture



```
var constituentBioData =  
    ViewForms.Constituent.IndividualBiographicalViewForm  
        .LoadData(AppFxProvider, constitId.ToString());
```

Unit Testing!



The screenshot shows a unit testing interface with a list of 31 tests, all of which passed. The tests are listed in a table with columns for the test name and the time taken to execute. A summary panel on the right indicates that the last test run passed and that all 31 tests passed.

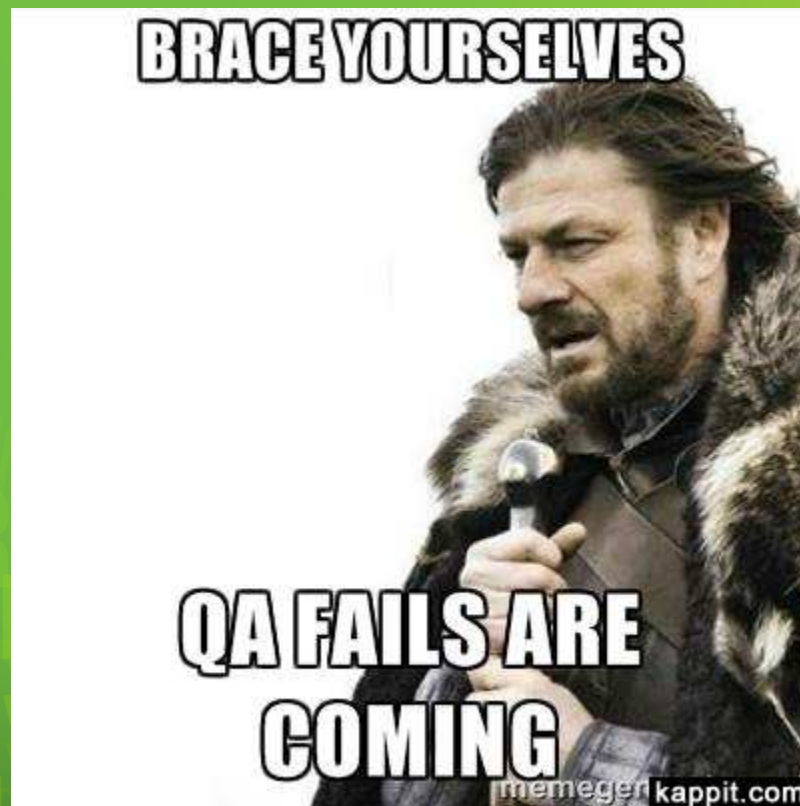
Test Name	Time
✓ AddConstituentTest	22 sec
✓ AddConstituentWithoutUMIDTest	661 ms
✓ AddConstituentWithoutUniqNameTest	697 ms
✓ AddDuplicateEmailTest	3 sec
✓ AddPrimaryEmailToConstituentTest	2 sec
✓ AddSecondEmailToConstituentTest	3 sec
✓ AddUMIDToConstituentTest	1 sec
✓ AddUniqNameToConstituentTest	2 sec
✓ BadGUIDConstituentSearchDirectTest	< 1 ms
✓ DeleteConstituentTest	787 ms
✓ FindConstituentByLookupIdBadInputTest	19 ms
✓ FindConstituentByLookupIdDirectTest	2 sec
✓ FindConstituentByLookupIdDoesntExistTest	57 ms
✓ FindConstituentByNameSSNBirthDateTest	1 sec
✓ FindConstituentByNameTest	1 sec
✓ FindConstituentSonByLookupIDTest	1 sec
✓ FindEligibleConstituentBadInputTest	7 ms
✓ FindEligibleConstituentEmptyInputTest	7 ms
✓ FindEligibleConstituentTest	3 sec
✓ FindMultipleConstituentsByNameTest	1 sec
✓ FindMultipleEligibleConstituentsTest	3 sec
✓ GetConstituentDataTest	1 sec
✓ GetConstituentNameByGUIDTest	1 sec
✓ GetConstituentSonBadInputTest	13 ms
✓ GetConstituentSonDoesntExistTest	69 ms
✓ GetConstituentSonTest	1 sec
✓ SetConstituentSSN	1 sec
✓ UpdateConstituentBadInputTest	30 ms
✓ UpdateConstituentDirectTest	2 sec
✓ UpdateConstituentTest	2 sec
✓ UpdateNonExistentConstituentTest	72 ms

Summary
Last Test Run Passed (Total Run Time 0:01:11)
✓ 31 Tests Passed



On to the acceptance/integration testing!

Acceptance/Integration Testing!

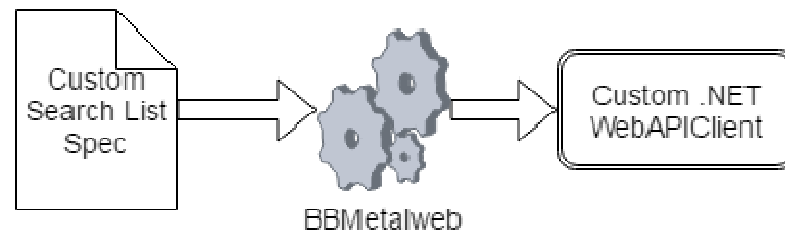


The BBEC SDK Can Save Us!

Let's create a custom SearchListSpec:

```
3 CREATE procedure dbo.USR_UM_USP_SEARCHLIST_CONSTITUENTSEARCHWITHBIRTHDATE
4 (
5     @LASTNAME nvarchar(100) = null,
6     @BIRTHDATE dbo.UDT_FUZZYDATE = '00000000',
7     @MAXROWS smallint = 500
8 )
9 as
10 select top(@MAXROWS)
11     c.ID,
12     c.NAME
13 from
14     dbo.CONSTITUENT c
15 where
16     (KEYNAME = @LASTNAME)
17     and (c.BIRTHDATE = @BIRTHDATE)
18 order by
19     KEYNAME asc
20
```

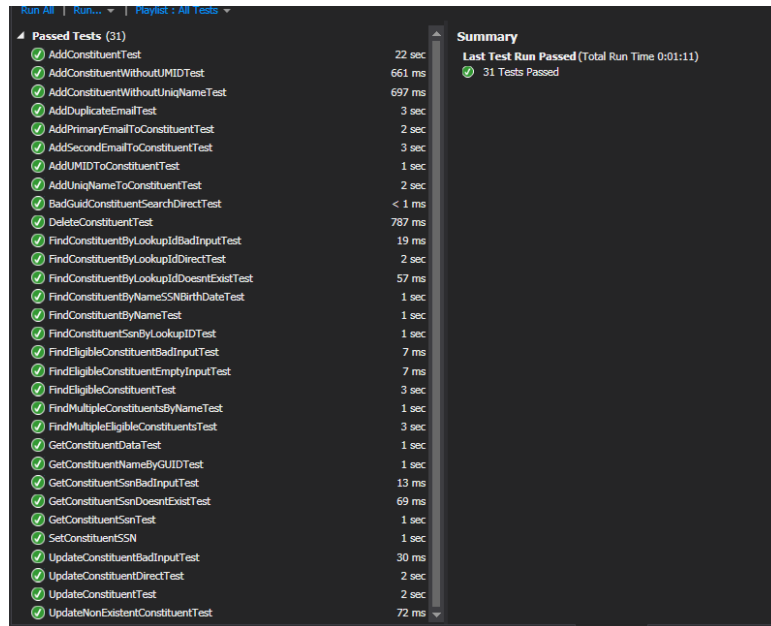

BBMetalWeb to the Rescue



```
var searchFilter = new IndividualSearchFilterData();
searchFilter.KEYNAME = lastName;
searchFilter.EXACTMATCHONLY = true;
var constituentIds = SearchLists.Constituent.IndividualSearch.GetIDs(AppFxProvider, searchFilter);
```

```
var constituentSearchFilter = new CustomConstituentSearchByBirthdateFilterData();
constituentSearchFilter.LASTNAME = lastName;
constituentSearchFilter.BIRTHDATE = FuzzyDate.Parse(birthDate);
var constituentIds = CustomConstituentSearchByBirthdate.GetIDs(AppFxProvider, constituentSearchFilter);
```

Back to the Unit Tests...



The screenshot shows a unit test runner interface with a list of 31 tests on the left and a summary on the right. All tests are marked with a green checkmark, indicating they passed. The tests include various scenarios for adding, finding, deleting, and updating constituents, as well as testing for bad GUIDs and SSNs. The summary on the right confirms that the last test run passed with a total run time of 0:01:11 and 31 tests passed.

Test Name	Duration
✓ AddConstituentTest	22 sec
✓ AddConstituentWithoutUniqNameTest	661 ms
✓ AddConstituentWithoutUniqNameTest	697 ms
✓ AddDuplicateEmailTest	3 sec
✓ AddPrimaryEmailToConstituentTest	2 sec
✓ AddSecondEmailToConstituentTest	3 sec
✓ AddUMIDToConstituentTest	1 sec
✓ AddUniqNameToConstituentTest	2 sec
✓ BadGuidConstituentSearchDirectTest	< 1 ms
✓ DeleteConstituentTest	787 ms
✓ FindConstituentByLookupIdBadInputTest	19 ms
✓ FindConstituentByLookupIdDirectTest	2 sec
✓ FindConstituentByLookupIdDoesntExistTest	57 ms
✓ FindConstituentByNameSSNBirthDateTest	1 sec
✓ FindConstituentByNameTest	1 sec
✓ FindConstituentSsnByLookupIDTest	1 sec
✓ FindEligibleConstituentBadInputTest	7 ms
✓ FindEligibleConstituentEmptyInputTest	7 ms
✓ FindEligibleConstituentTest	3 sec
✓ FindMultipleConstituentsByNameTest	1 sec
✓ FindMultipleEligibleConstituentsTest	3 sec
✓ GetConstituentDataTest	1 sec
✓ GetConstituentNameByGUIDTest	1 sec
✓ GetConstituentSsnBadInputTest	13 ms
✓ GetConstituentSsnDoesntExistTest	69 ms
✓ GetConstituentSsnTest	1 sec
✓ SetConstituentSSN	1 sec
✓ UpdateConstituentBadInputTest	30 ms
✓ UpdateConstituentDirectTest	2 sec
✓ UpdateConstituentTest	2 sec
✓ UpdateNonExistentConstituentTest	72 ms

Summary
Last Test Run Passed (Total Run Time 0:01:11)
✓ 31 Tests Passed

Still Passing!

Selection of U-M Customizations

Customization	Description	Technology
Game Day Events	New CRM feature for tracking athletic tickets, tailgating, box suites. Created using BBEC CRM SDK.	BBEC CRM SDK
Recognition Credit	Surface BBDW rec credit data in BBEC and allow bulk rec credit updates.	BBEC CRM SDK
RabbitMQ Integration	Push messages to external message queue as changes are made to designation information to support online giving.	SQL Server Service Broker
UMP	U-M Process – generic business process with a suite of general file management operations.	BBEC CRM SDK, .NET SDK
Post to GL	Custom (fixed-width) GL journal file for U-M's PeopleSoft Financials System	BBEC CRM SDK, .NET SDK
AAUM Integration	Receive constituent updates from Alumni Association's Salesforce CRM and transmit updates from DART to AAUM.	BBEC WebAPIClient, Salesforce outbound messaging, .NET SDK.