



TRAILHEAD
TECHNOLOGY PARTNERS

.NET and C# Training

Session 11

Overall Agenda

~~Session 1 – 6: Basic and Advanced C# and VS~~

~~Session 7: Classes available in .NET BCL~~

~~Session 8: Data Access Basics (ADO.NET)~~

~~Session 9 - 10: C# Advanced concepts~~

Session 11 – 12: Data Access with Entity Framework 6

Session 13 – 14: Version Control with TFVC and Git

Session 15 – 16: ASP.NET (RESTful) Web APIS

Today's Agenda

1. Review last assignments (1 hr 30 min)
2. EF 6 (2 hr)
3. New assignment (30 min)

Review Last Assignment

Assignment 10

Pick 2 or more ideas below to implement over the next 2 weeks:

- A Weather API that is based on an address or ZIP code
https://geocoding.geo.census.gov/geocoder/Geocoding_Services_API.html#_Toc7768595
<https://weather-gov.github.io/api/gridpoints>
<https://ipinfo.io/developers/data-types#geolocation-data>
<https://www.ipify.org/>
- A console application that can compile a file or files of C# code
<https://docs.microsoft.com/en-us/troubleshoot/developer/visualstudio/csharp/language-compilers/compile-code-using-compiler#compile-code-by-using-c-compiler>
- A console application that reads from an RSS feed, checks each post for what language it is using an API, and filters out the non-English content
<https://azure.microsoft.com/en-us/pricing/details/cognitive-services/translator/>
<https://docs.microsoft.com/en-us/azure/cognitive-services/language-service/language-detection/quickstart?pivots=programming-language-csharp>
<https://www.planetxamarin.com/feed>
- Use a NASA API to do something cool or useful
<https://api.nasa.gov/index.html>
- Create a console application that is a public library management system which stores books, patrons, and loans in a database and does all the basic functions of a library – check-in, check-out, late notices/fees, waitlists/holds, etc.
- Create a graph (bar, line, pie, etc) programmatically using the Graphics namespace and base it on data from census API, caching the results in a database if they've already been retrieved recently
<https://www.census.gov/data/developers/data-sets.html>

<https://github.com/jonathantower/learning-dotnet>

Entity Framework 6

DEMO

Create a Data Model

DEMO

Code First Data Context

DEMO

Read Operations

DEMO

Create Operations

DEMO

Update Operations

DEMO

Delete Operations

DEMO

Navigation Properties, Include, and Lazy Loading

Assignment 11

- Create (or update) your console to-do list application from assignment 8 that stores its to do item and their statuses in a SQL Server LocalDB database using EF6 instead of ADO.NET
- Allow the user to view their to-do list, add items, remove items, and mark items complete
- Challenge 1: Create you console as a CLI instead of menu-based.
(ex:
 todo help
 todo add "item 1"
 todo complete "item 1"
 todo list
 etc...
)
- Challenge 2: Allow the user to view completed items and mark then as incomplete