

# Getting Started with SolrNet Your .NET Search Library

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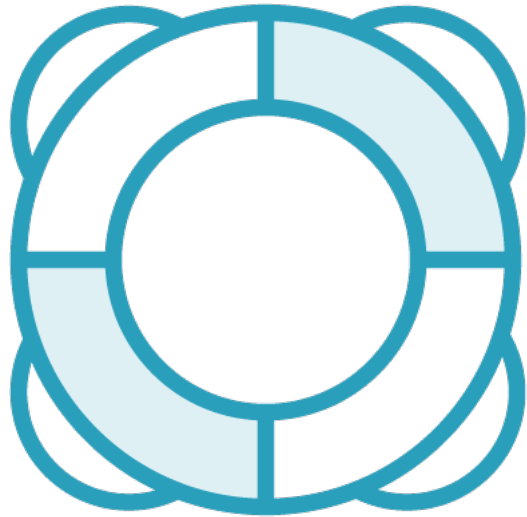
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PASSIONATE ABOUT TEACHING

@xmorera [www.xaviermorera.com](http://www.xaviermorera.com)



# Getting Started with SolrNet



**SolrNet makes working with Solr easy**

**We will cover in this module**

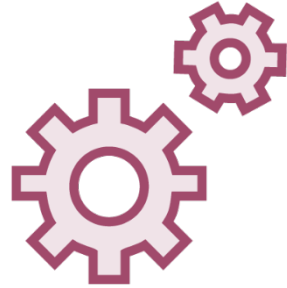
- Overview
- Getting SolrNet
- Building SolrNet
- Dependencies
- Sample App
- Connect to Solr
- Work with Solr from the comfort of C#



# A Quick SolrNet Overview



Connection



Operations



Query Options



Parameters



Query & Results



CoreAdmin



# Getting SolrNet

- Web search for *SolrNet GitHub*
  - See! Searching is always useful!
- If not, then: <https://github.com/mausch/SolrNet>

The screenshot shows the GitHub repository page for **mausch / SolrNet**. The repository has 105 watchers, 514 stars, and 439 forks. It contains 63 issues, 20 pull requests, and 1,426 commits. The repository is for a Solr client for .Net, with the latest commit being 9c64895, made 14 days ago. The commit history shows several recent updates, including a new pull request, a new file, and updates to the .nuget package, AutofacContrib.SolrNet.Tests, AutofacContrib.SolrNet, and Castle.Facilities.SolrNetIntegration.Te....

mausch / SolrNet

Unwatch 105 Unstar 514 Fork 439

Code Issues 63 Pull requests 20 Pulse Graphs

Solr client for .Net <https://github.com/mausch/SolrNet/blob/master/Documentation/README.md>

1,426 commits 13 branches 15 releases 44 contributors

Branch: master New pull request New file Upload files Find file HTTPS https://github.com/mausch Download ZIP

Christoph U Parse Start attribute in result. Latest commit 9c64895 14 days ago

.nuget	Don't require restore consent	3 years ago
AutofacContrib.SolrNet.Tests	Issue 129: Support for providing a custom IHttpWebRequestFactory when...	2 years ago
AutofacContrib.SolrNet	Bump version to 0.5.0-alpha2	9 months ago
Castle.Facilities.SolrNetIntegration.Te...	Upgrade to Windsor 3.2	3 years ago

# Getting SolrNet



**Clone**

*(Need to know Git)*



**Download**



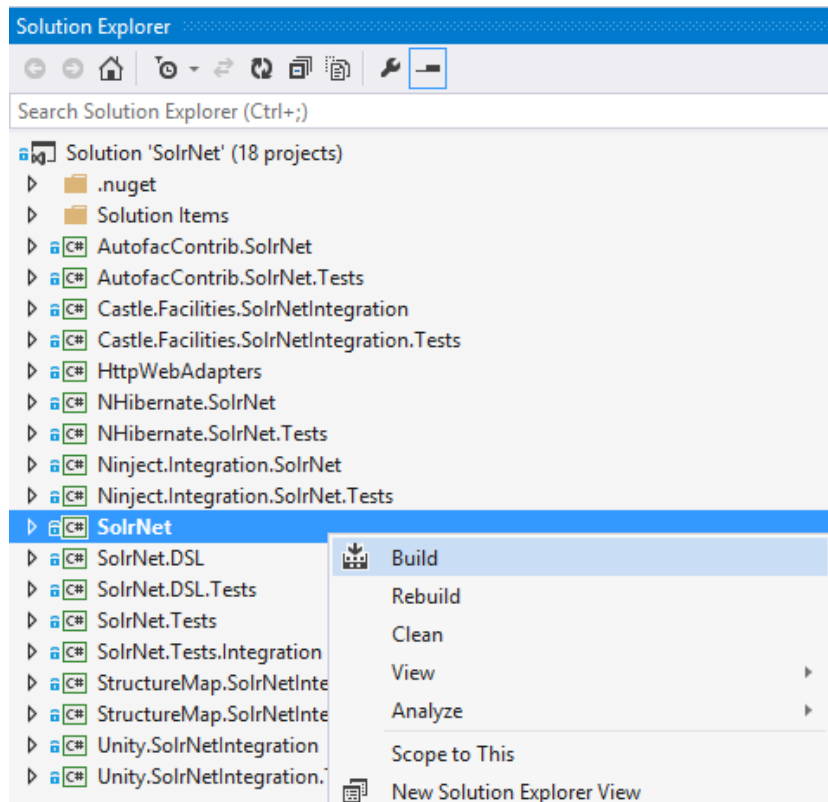
**Fork**

*(Perfect if you want  
to contribute!)*

# Building SolrNet

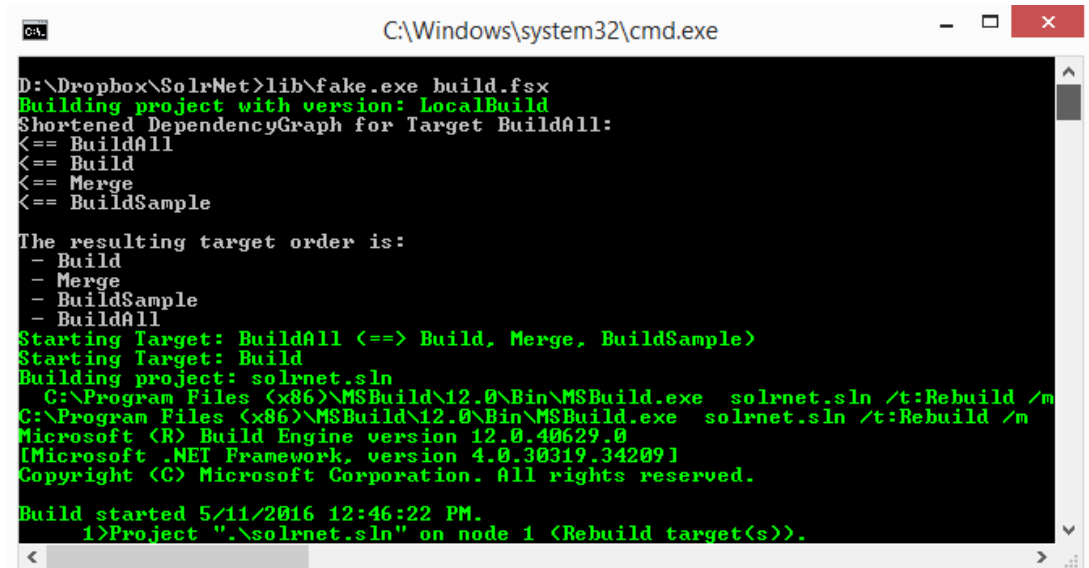
## Compile in Visual Studio

SolrNet.sln



## Full Build

Build.bat



# SolrNet Libraries

Several libraries are required to use SolrNet

I've placed them in **lib**

Or use the ones you just built!











Others might be required (i.e. Castle)

**To get started you need:**

- HttpWebAdapters.dll
- Microsoft.Practices.ServiceLocation.dll
- SolrNet.dll
- SolrNet.DSL.dll



# SolrNet Libraries

Name	Date modified	Type	Size
 HttpWebAdapters.dll	4/22/2016 4:16 PM	Application extens...	19 KB
 HttpWebAdapters.pdb	4/22/2016 4:16 PM	Program Debug D...	62 KB
 HttpWebAdapters.xml	4/22/2016 4:16 PM	XML File	85 KB
 Microsoft.Practices.ServiceLocation.dll	4/22/2016 4:14 PM	Application extens...	30 KB
 SolrNet.dll	4/22/2016 4:16 PM	Application extens...	329 KB
 SolrNet.DSL.dll	4/22/2016 4:16 PM	Application extens...	18 KB
 SolrNet.DSL.pdb	4/22/2016 4:16 PM	Program Debug D...	62 KB
 SolrNet.DSL.xml	4/22/2016 4:16 PM	XML File	13 KB
 SolrNet.pdb	4/22/2016 4:16 PM	Program Debug D...	936 KB
 SolrNet.xml	4/22/2016 4:16 PM	XML File	310 KB





# SolrNet Sample App

Welcome to Megastore! X

localhost:8082/?q=solr

## Megastore

Sort by: [Best match](#) | [Name](#) | [Price](#) | [Random](#)

**Categories**

[search](#) (1)

[software](#) (1)

**Manufacturer**

[Apache Software Foundation](#) (1)

**Solr, the Enterprise Search Server**

Price: \$0.00

Categories: [software](#), [search](#)

Results 1 - 1 of 1

[« Previous](#) **1** [Next »](#)

5 | [10](#) | [20](#) items per page

Cassini Personal Web Server v3.5

### Cassini Personal Web Server v3.5

Application Directory:

Server Port:

Virtual Root:

Click To Browse: <http://localhost:8082/>

Solr Admin (alpharetta) X

localhost:8983/solr/#/

**Apache Solr**

**Dashboard**

- Logging
- Core Admin
- Java Properties
- Thread Dump

collection1

**Instance**

Start	about a minute ago
Host	alpharetta
CWD	D:\Dropbox\SolrNet\solr
Instance	D:\Dropbox\SolrNet\solr\solr\
Data	D:\Dropbox\SolrNet\solr\solr\data
Index	D:\Dropbox\SolrNet\solr\solr\data\index

**Versions**

solr-spec	4.0.0-2012.06.25.15.26.16
solr-impl	4.0.0-ALPHA 1353699 - rmuir - 2012-06-25 15:26:16

**System**

Physical Memory: 6.11 GB

Swap Space: 7.08 GB

C:\ProgramData\Oracle\Java\javapath\java.exe

```
INFO: [collection1] webapp=/solr path=/select params={q=*:*&rows=0&spellcheck=true&version=2.2&spellcheck.build=true} hits=16 status=0 QTime=0
May 11, 2016 12:57:29 PM org.apache.solr.request.UnInvertedField <init>
INFO: UnInverted multi-valued field {field=cat,memSize=4599,tindexSize=46,time=0}
May 11, 2016 12:57:29 PM org.apache.solr.core.SolrCore execute
INFO: [collection1] webapp=/solr path=/select params={q=*:*&f.cat.facet.mincount=1&facet.field=cat&facet.field=manu_exact&spellcheck=true&start=0&f.manu_exact.facet.mincount=1&rows=5&facet=true&version=2.2} hits=16 status=0 QTime=12
May 11, 2016 12:57:30 PM org.apache.solr.core.SolrCore execute
INFO: [collection1] webapp=/solr path=/select params={q=*:*&f.cat.facet.mincount=1&facet.field=cat&facet.field=manu_exact&spellcheck=true&start=0&f.manu_exact.facet.mincount=1&rows=5&facet=true&version=2.2} hits=16 status=0 QTime=0
May 11, 2016 12:57:42 PM org.apache.solr.core.SolrCore execute
INFO: [collection1] webapp=/solr path=/select params={q=SOLR&f.cat.facet.mincount=1&facet.field=cat&facet.field=manu_exact&spellcheck=true&start=0&f.manu_exact.facet.mincount=1&rows=5&facet=true&version=2.2} hits=1 status=0 QTime=19
May 11, 2016 12:57:45 PM org.apache.solr.core.SolrCore execute
INFO: [collection1] webapp=/solr path=/select params={q=solr&f.cat.facet.mincount=1&facet.field=cat&facet.field=manu_exact&spellcheck=true&start=0&f.manu_exact.facet.mincount=1&rows=5&facet=true&version=2.2} hits=1 status=0 QTime=2
May 11, 2016 12:58:12 PM org.apache.solr.core.SolrCore execute
INFO: [collection1] webapp=/solr path=/admin/system params={wt=json} status=0 QTime=1
```

# Connecting to Solr

Enterprise Library



ServiceLocator



CastleWindsor



Ninject



AutoFac





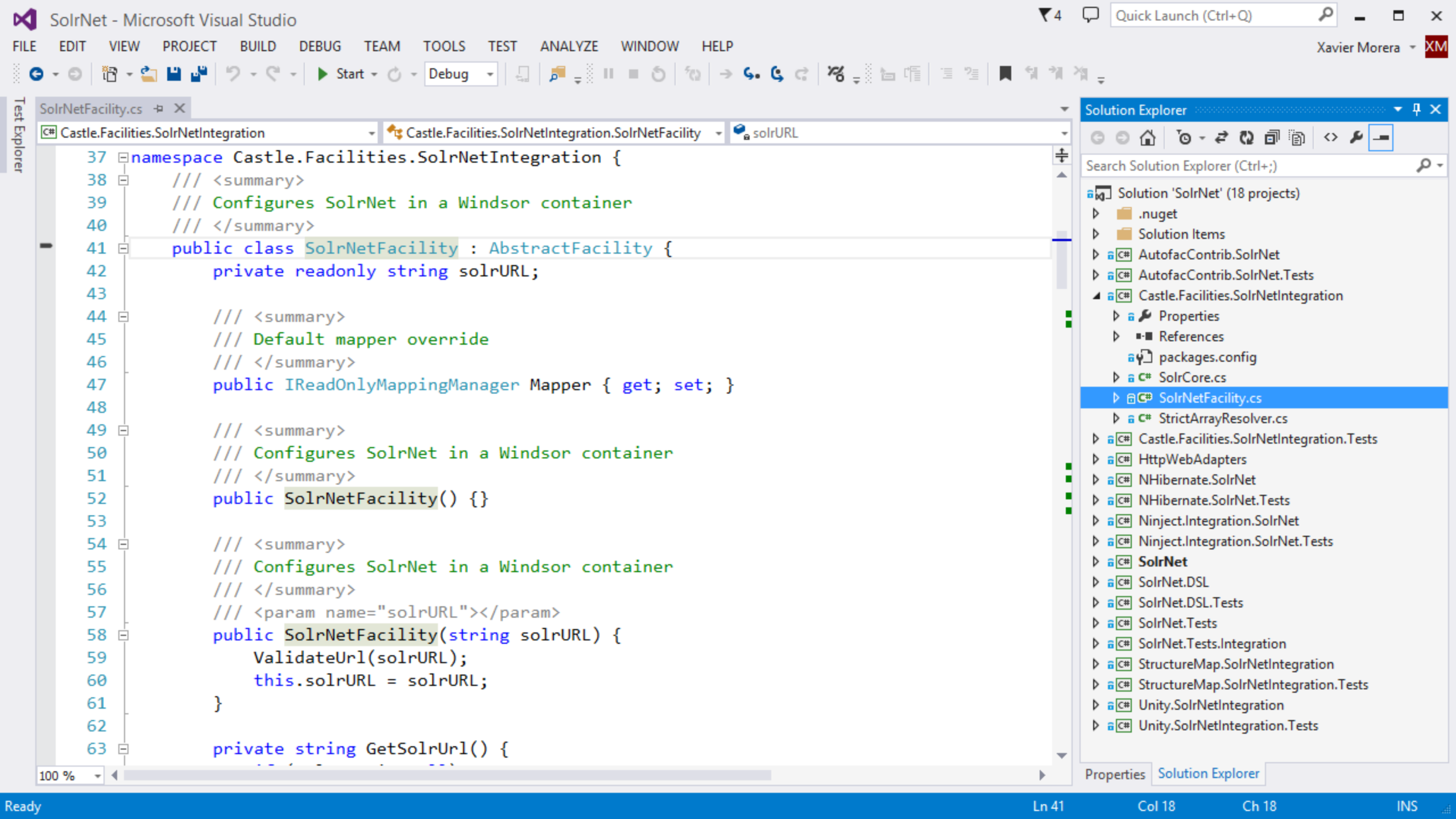
# SolrNet's Dependencies

**You might need them... or you might not**

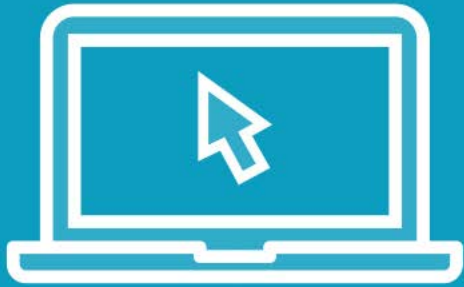
- CastleWindsor
- StructureMap
- Ninject
- Unity
- Autofac
- NHibernate

**Careful on conflicts**





# Demo

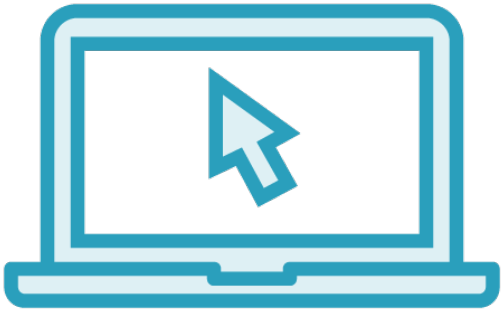


## Connecting to Solr Using CastleWindsor

### M4 D1



# Demo Summary



**ServiceLocator is the default container**

**Limitation of a single connection**

- SolrCloud or multiple cores

**Alternatives: CastleWindsor or other containers**

**Careful with conflicting versions**

**Careful with data driven schema field types**

**Let me show you a quick tip**

Use Fiddler to inspect calls made by SolrNet





#	Result	Protocol	Host	URL
10	200	HTTP	alpharetta:8983	/solr/coursesdemo/select?q=sql&rows=1000000000&version=2.2

## Request Headers

[\[ Raw \]](#) [\[ Header Definitions \]](#)

GET /solr/coursesdemo/select?q=sql&amp;rows=1000000000&amp;version=2.2 HTTP/1.1

## Client

Accept-Encoding: gzip, deflate

## Transport

Connection: Keep-Alive

Host: alpharetta:8983

```
response
  lst [ name=responseHeader ]
  int [ name=status ]
  int [ name=QTime ]
  lst [ name=params ]
    str [ name=q ]
    str [ name=rows ]
    str [ name=version ]
  result [ name=response numFound=181 start=0 ]
    doc
      str [ name=courseid ]
      str [ name=coursetitle ]
        SQL Azure
      int [ name=durationseconds ]
        9520
      date [ name=releasedate ]
        2011-01-24T00:00:00Z
      str [ name=description ]
        SQL Azure is Microsoft's RDBMS for the cloud. Because it is based on SQL Server, developers can apply what th
      arr [ name=tags ]
      str [ name=tagsdescription ]
```

Expand All

Collapse



# Using Solr from C#



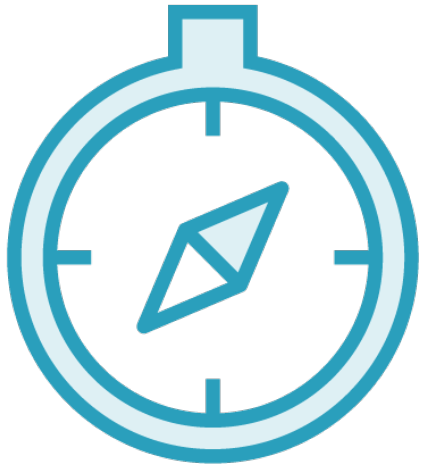
## Initialize connection to Solr

- We just did this!

## Map document

- Many ways
- We mapped using attributes a POJO
- You can also use `AllPropertiesMappingManager` and `MappingManager`
- Dynamic fields use `Attributes` or `IDictionary`
- Fully loose mapping
- Create your own!
  - Implement `IReadOnlyMappingManager`

# Using Solr from C#



## Index

- Documents & Binary Files

## Query & Results

- Query Options, Parameters, ...
- Facets, Highlights, Spellchecks, ...
- Make search more accurate

## Manage Solr

- CoreAdmin

# Demo



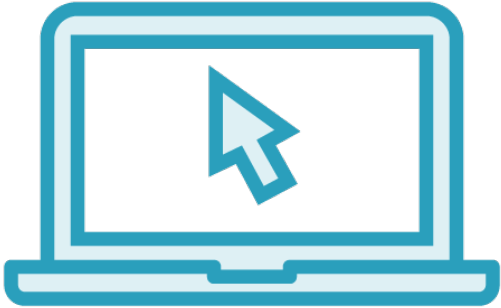
## Making Search Better

### SolrNet Parameters

### M4 D2



# Demo Summary



**Take advantage of the power of SolrNet**

## **Parameters**

- Query Options
- Paging
- Facets & Filters

# Takeaway



**SolrNet makes working with Solr easy**

**Get, download and build**

**Contribute**

**Connect to Solr**

**ServiceLocator, CastleWindsor,  
Ninject, Autofac**

**Sample application**

**Solr from C#**

