

C# CMD PARSER

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REQUIREMENTS

- Allow user to do whatever he wants to, do not limit him to the features implemented by the library
- Externalize storage of the parsed arguments
- Convenient set-up using builders

MAIN IDEA

- To fulfill the requirements, we use callback mechanism
 - The callback is called once the option is successfully parsed
- Parameters for options are strongly-typed
 - The library predefines parse methods for common types (string, int...)
 - However, parse method for user-defined type can be supplied
 - In both cases, callback is invoked with argument corresponding to result of the parse method

EXAMPLE

```
parserBuilder.SetupOption<string>(Short('f'), Long("format"))  
    .WithDescription("Description of the option")  
    .Callback(format => output.OutputFormat = format)  
    .ParameterRequired();
```

EXAMPLE

Parser encounters
"--format=MYFORMAT"
text on input

Parser finds out the
option to be parsed
is "format"

Parser applies parse method
upon the parsed argument.
It is identity in this case.

User can manipulate
with the externalized
data storage.

Callback is invoked
with the argument
originating from the
previous step.



MAIN IDEA

- We use builders to set-up the parser
- Parsed arguments are returned using `IReadOnlyList<string>` instance
- Help can be viewed for a single option, or as a structuralized text block

BENEFITS / DRAWBACKS

- Parser can be customized in any way the user wants to
 - Can be used even in complex workflow
- Due to callback mechanism, the library might not be beginner-friendly
- A lot of code needs to be implemented to set-up the parser
 - Even for naïve usage of the parser

REVIEW COMMENTS

- Basically positive, thanks for all of them
- We will write a tutorial for newcomers how to use the library
 - Until now, the usage had to be inferred from the provided example
- We will think about incorporating excluding options into the parser
 - That means, there should be several sets, each one allowing some options only