Static site generator

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Chapter 1

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Chapter 2

StaticSiteGenerator

Chapter 3

Static site generator

This program is created as a semestral project for the NPRG035 and NPRG038 courses.

3.1 Introduction

Static site generator is a program which generates static websites. Users create *Markdown* files which are then converted into *HTML*. Because of that, users don't need to know *HTML* to create websites.

3.2 Functional description

After running the generator without any arguments a project directory will be created containing all the required directories. Users will then provide the *Markdown* files and images into their respective directories. After that, running the generator with the argument "compile" will compile everything and will create the output directory. Static site generator will be able to:

- read and parse the provided *Markdown* files - these are called posts
- convert them into *HTML*
- create an Index page in *HTML*
- add a header and a footer to all *HTML* pages

3.3 Functional requirements

3.3.1 Parsing Markdown files

The markdown files must contain the tags "Author" and "Name" right at the top of the page. The static site generator will be able to parse and translate into *HTML* the following subset of *Markdown*:

Markdown	HTML
# Heading level 1	**Heading level 1**
## Heading level 2	**Heading level 2**
### Heading level 3	**Heading level 3**
#### Heading level 4	**Heading level 4**
##### Heading level 5	**Heading level 5**
###### Heading level 6	**Heading level 6**
bold text	**bold text**
bold text	**bold text**
italic text	*italic text*
italic text	*italic text*
`word`	`word`
Unorderered list with "+", "∗"	
+ First item	• First item
+ Second item	• Second item
! [] (image.png)	will display the provided image
Link `Guide`	clickable Guide

3.3.2 Creating the Index page

The generated Index page will contain a list of all posts. The generator will use tags located inside of each *Markdown* file.

3.3.3 Templating

The generator will only create the *HTML* files. Styling needs to be done by the user using CSS.

3.4 Data inputs

The only data inputs are the *Markdown* files provided by the user along with images inside a special directory.

Chapter 4

Namespace Index

4.1 Packages

Here are the packages with brief descriptions (if available):

Chapter 5

Hierarchical Index

5.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

Chapter 6

Class Index

6.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 7

Namespace Documentation

7.1 MarkdownCompiler Namespace Reference

Classes

- class BodyNode

  A node representing the body of the file. Contains all paragraphs.
- class BoldParser

  A paprser specialised to recognise a token patter representing bold text.
- class CodeParser

  A paprser specialised to recognise a token patter representing coded text.
- class Compiler
- class ConfigContent
- class ConfigLoader
- class Generator
- class HeaderParser

  A paprser specialised to recognise a token patter representing a header.
- class ImageParser

  A paprser specialised to recognise a token patter representing an image link.
- class IndexFileCreator
- interface INode

  Represents a node of an Abstract Syntax Tree
- interface ISentenceParser

  Represents a parser which looks for a specific set of tags which form a specific sentence.
- interface ISentencesParser

  Represents a parser which parses sentences of tokens. Sentence can be for example a bold text, normal text, link, etc.
- class ItalicParser

  A paprser specialised to recognise a token patter representing text in italic.
- interface IToken

  An implementation must represent a token with a type and a value created by the Tokenizer while reading the correct char from the file.
- interface ITokenizer

  Must represent a Tokenizer. Must be accompanied by a creation of a specific parser.
- class LinkParser

  A paprser specialised to recognise a token patter representing a link.

- class ListParser

  A paprser specialised to recognise a token patter representing a unordered list.
- class Node

  A node representing a sentence in the grammar.
- class ParagraphNode

  A node representing a paragraph. Contains all sentences inside of the paragraph.
- class ParagraphParser

  A paprser specialised to recognise a paragraph node from the list of tokens.
- class Parser
- class SentenceParser

  A paprser specialised to recognise a sentence node from the list of tokens.
- class SentencesEOFParser

  A paprser specialised to recognise a sentences followed by the End of File character.
- class SentencesNewlineParser

  A paprser specialised to recognise a sentences followed by an empty line.
- class SpecialCharScanner
- class TextParser

  A paprser specialised to recognise a token patter representing plain text.
- class TextScanner
- class Token
- class Tokenizer

Enumerations

- enum NodeType {
  TEXT , **H1** , **H2** , **H3** ,
  H4 , **H5** , **H6** , **BOLD** ,
  ITALIC , **CODE** , **LIST** , **IMAGE** ,
  LINK }

  Different types of nodes.
- enum TokenType {
  TEXT , **HASHTAG** , **UNDERSCORE** , **STAR** ,
  PLUS , **EXCLAMATIONMARK** , **NEWLINE** , **LEFTSQUAREBRACKET** ,
  RIGHTSQUAREBRACKET , **LEFTBRACKET** , **RIGHTBRACKET** , **BACKTICK** ,
  EOF }

  Different types of tokens.

7.2 StaticSiteGenerator Namespace Reference

Classes

- class Creator
- class DirectoryCreator
- class Program

  Class containing the Main method.

7.3 StaticSiteGeneratorTests Namespace Reference

Classes

- class TokenizerTests

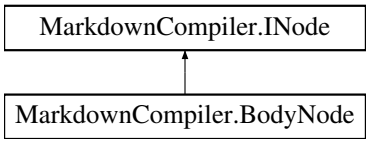
Chapter 8

Class Documentation

8.1 MarkdownCompiler.BodyNode Class Reference

A node representing the body of the file. Contains all paragraphs.

Inheritance diagram for MarkdownCompiler.BodyNode:



Static Public Member Functions

- static BodyNode **BodyNodeFactory** (List< ParagraphNode > paragraphs, int consumed)

Properties

- List< ParagraphNode > **Paragraphs** `[get]`
- int **Consumed** `[get]`

Private Member Functions

- **BodyNode** (List< ParagraphNode > paragraphs, int consumed)

8.1.1 Detailed Description

A node representing the body of the file. Contains all paragraphs.

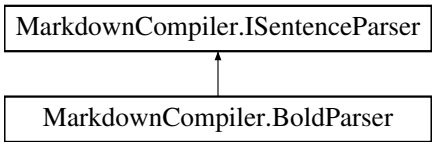
The documentation for this class was generated from the following file:

- BodyNode.cs

8.2 MarkdownCompiler.BoldParser Class Reference

A paprser specialised to recognise a token patter representing bold text.

Inheritance diagram for MarkdownCompiler.BoldParser:



Public Member Functions

- Node Parse (IToken[ ] tokens)

  Parses tokens and looks for a pattern representing bold text.

Private Attributes

- List< TokenType > **UnderscoreTemplate** = new List<TokenType>() { TokenType.UNDERSCORE, Token↩ Type.UNDERSCORE, TokenType.TEXT, TokenType.UNDERSCORE, TokenType.UNDERSCORE }
- List< TokenType > **StarTemplate** = new List<TokenType>() { TokenType.STAR, TokenType.STAR, Token↩ Type.TEXT, TokenType.STAR, TokenType.STAR }

8.2.1 Detailed Description

A paprser specialised to recognise a token patter representing bold text.

8.2.2 Member Function Documentation

8.2.2.1 Parse()

```
Node MarkdownCompiler.BoldParser.Parse (
            IToken[] tokens )
```

Parses tokens and looks for a pattern representing bold text.

Parameters

tokens	A list of tokens.

Returns

Null if no pattern was found. A node containing the text which should be bold.

Implements MarkdownCompiler.ISentenceParser.

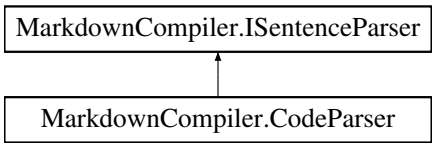
The documentation for this class was generated from the following file:

- BoldParser.cs

8.3 MarkdownCompiler.CodeParser Class Reference

A paprser specialised to recognise a token patter representing coded text.

Inheritance diagram for MarkdownCompiler.CodeParser:



Public Member Functions

- Node Parse (IToken[ ] tokens)
  Parses tokens and looks for a pattern representing coded text.

Private Attributes

- List< TokenType > **BacktickTemplate** = new List<TokenType>() { TokenType.BACKTICK, TokenType.↩ TEXT, TokenType.BACKTICK }

8.3.1 Detailed Description

A paprser specialised to recognise a token patter representing coded text.

8.3.2 Member Function Documentation

8.3.2.1 Parse()

```
Node MarkdownCompiler.CodeParser.Parse (
            IToken[] tokens )
```

Parses tokens and looks for a pattern representing coded text.

Parameters

tokens	A list of tokens.

Returns

Null if no sequence was found or a node containing the text which should be coded.

Implements MarkdownCompiler.ISentenceParser.

The documentation for this class was generated from the following file:

- CodeParser.cs

8.4 MarkdownCompiler.Compiler Class Reference

Public Member Functions

- **Compiler** (bool isInsideWebDirectory, string configFileName)
- async Task CompileFileAsync (string path, string outputDirectoryName)

  Asynchronously reads, tokenizes and parses a markdown file and converts its contents into HTML and writes the result asynchronously into a file with the extension ".html" at the specified output directory. Will let the user know if an error during the compilation occured via the console.
- async Task CreateIndexFileAsync (string outputDirectory, string configFileName)

  Asynchronously creates the index html file in the specified output directory. Uses the contents of the config.json file. All posts are displayed on the index page along with their links and titles.

Properties

- bool **IsInsideWebDirectory** `[get]`
- string **ConfigFileName** `[get, set]`

Private Member Functions

- async Task CompileAndOutputFileAsync (List< IToken > resultTokens, string fileName, string title, string outputDirectoryName)

  Parses the tokens paragraph by paragraph, then generates the HTML of the paragraph and asynchronously writes to a file at the specified location.
- async Task< string > TryGetTitleAsync (StreamReader reader)

  Asynchronously reads the first three lines of the specified file and returns the title of the page specified by the "Name" tag.
- async Task<(List< IToken >, string title)> GetFileTokens (string name)

  Asynchronously reads the specified file line by line and returns the title of the page (specified at the top of the page) and the list of tokens representing the contents of the page.

Private Attributes

- Dictionary< string, string > **FileTitles**

8.4.1 Member Function Documentation

8.4.1.1 CompileAndOutputFileAsync()

```
async Task MarkdownCompiler.Compiler.CompileAndOutputFileAsync (
            List< IToken > resultTokens,
            string fileName,
            string title,
            string outputDirectoryName )  [private]
```

Parses the tokens paragraph by paragraph, then generates the HTML of the paragraph and asynchronously writes to a file at the specified location.

Parameters

resultTokens	A list of tokens.
fileName	Name of the file we want to put our generated HTML.
title	The extracted title of the page.
outputDirectoryName	The output directory where we want to put our newly generated file.

Returns

A task.

8.4.1.2 CompileFileAsync()

```
async Task MarkdownCompiler.Compiler.CompileFileAsync (
            string path,
            string outputDirectoryName )
```

Asynchronously reads, tokenizes and parses a markdown file and converts its contents into HTML and writes the result asynchronously into a file with the extension ".html" at the specified output directory. Will let the user know if an error during the compilation occured via the console.

Parameters

path	The path to a file we want to compile.
outputDirectoryName	The output directory where we want to put our newly generated HTML file.

Returns

A task.

8.4.1.3 CreateIndexFileAsync()

```
async Task MarkdownCompiler.Compiler.CreateIndexFileAsync (
            string outputDirectory,
            string configFileName )
```

Asynchronously creates the index html file in the specified output directory. Uses the contents of the config.json file. All posts are displayed on the index page along with their links and titles.

Parameters

outputDirectory	Where to put the index file.
configFileName	The name of the config file containing the information about the website name and the name of the author.

Returns

8.4.1.4 GetFileTokens()

```
async Task<(List< IToken >, string title)> MarkdownCompiler.Compiler.GetFileTokens (
            string name )  [private]
```

Asynchronously reads the specified file line by line and returns the title of the page (specified at the top of the page) and the list of tokens representing the contents of the page.

Parameters

name	The path to a file which we want to tokenize.

Returns

A tuple consisting of a List of Itokens and a string representing the title of the page. Returns (null,null) if an error occured during extraction of the title of tokenizing

8.4.1.5 TryGetTitleAsync()

```
async Task< string > MarkdownCompiler.Compiler.TryGetTitleAsync (
            StreamReader reader )  [private]
```

Asynchronously reads the first three lines of the specified file and returns the title of the page specified by the "Name" tag.

Parameters

reader	A stream reader of the file from which we want to extract the title.

Returns

Task where the string represents the title or null if there was an error.

The documentation for this class was generated from the following file:

- Compiler.cs

8.5 MarkdownCompiler.ConfigContent Class Reference

Properties

- string **Author** `[get, set]`
- string **WebsiteName** `[get, set]`

The documentation for this class was generated from the following file:

- ConfigLoader.cs

8.6 MarkdownCompiler.ConfigLoader Class Reference

Static Public Member Functions

- static async Task< ConfigContent > **GetConfigContentAsync** (bool isInsideWebDirectory, string config↩ Name)

The documentation for this class was generated from the following file:

- ConfigLoader.cs

8.7 StaticSiteGenerator.Creator Class Reference

Public Member Functions

- **Creator** (Compiler compiler)
- async Task **GenerateHTMLAsync** ()

  Creator will compile all markdown files inside the posts directory into html and put the inside the output directory.
- void CopyPicturesToOutput (string inputDirectoryName, string outputDirectoryName)

  Copies files from the input directory into the ouput directory.

Static Public Member Functions

- static void **TemplateConfigFile** ()

  Creates the configuration json file and adds the template config structure containing variables 'Name' and 'Author'.

Properties

- Compiler **Compiler** `[get, set]`

Private Member Functions

- string[ ] GetPostNames ()

  Searches the posts directory and returns an array of names of all markdown files.

Static Private Member Functions

- static bool **GenerateConfigFile** ()

  Creates the configuration json file.

Static Private Attributes

- static readonly string **TemplateConfigContent** = "{\"Author\":\"John Doe\", \"WebsiteName\":\"A very nice website\"}"

8.7.1 Member Function Documentation

8.7.1.1 CopyPicturesToOutput()

```
void StaticSiteGenerator.Creator.CopyPicturesToOutput (
            string inputDirectoryName,
            string outputDirectoryName )
```

Copies files from the input directory into the ouput directory.

Parameters

inputDirectoryName	Name of the input directory.
outputDirectoryName	Name of the output directory.

8.7.1.2 GetPostNames()

```
string[] StaticSiteGenerator.Creator.GetPostNames ( )  [private]
```

Searches the posts directory and returns an array of names of all markdown files.

Returns

All names of markdown files inside the posts directory or null if posts directory cannot be found.

The documentation for this class was generated from the following file:

- Creator.cs

8.8 StaticSiteGenerator.DirectoryCreator Class Reference

Static Public Member Functions

- static void **CreateTemplateDirectories** ()

  Creates the template website directory structure.

The documentation for this class was generated from the following file:

- DirectoryCreator.cs

8.9 MarkdownCompiler.Generator Class Reference

Public Member Functions

- string **GenerateParagraphText** (ParagraphNode paragraphNode)
- string **GetHeader** (string title)
- string **GetBodyEnd** ()
- string **GetFooter** (ConfigContent authorAndTitle)

Private Member Functions

- string **GenerateHeader** (ParagraphNode paragraphNode)
- string **GenerateOther** (Node node)
- string **GenerateHeaderString** (string headerType, ParagraphNode paragraphNode)

Static Private Attributes

- static readonly NodeType[ ] **headerTypes** = new NodeType[ ] { NodeType.H1, NodeType.H2, NodeType.H3, NodeType.H4, NodeType.H5, NodeType.H6 }

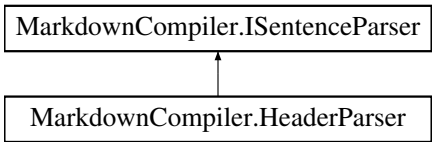
The documentation for this class was generated from the following file:

- Generator.cs

8.10 MarkdownCompiler.HeaderParser Class Reference

A paprser specialised to recognise a token patter representing a header.

Inheritance diagram for MarkdownCompiler.HeaderParser:



Public Member Functions

- Node Parse (IToken[ ] tokens)

  Parses tokens and looks for a pattern representing a header.

8.10.1 Detailed Description

A paprser specialised to recognise a token patter representing a header.

8.10.2 Member Function Documentation

8.10.2.1 Parse()

```
Node MarkdownCompiler.HeaderParser.Parse (
            IToken[] tokens )
```

Parses tokens and looks for a pattern representing a header.

Parameters

tokens	A list of tokens.

Returns

Null if no sequence was found or a node containing the text which should be coded.

Implements MarkdownCompiler.ISentenceParser.

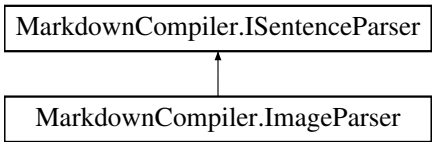
The documentation for this class was generated from the following file:

- HeaderParser.cs

8.11 MarkdownCompiler.ImageParser Class Reference

A paprser specialised to recognise a token patter representing an image link.

Inheritance diagram for MarkdownCompiler.ImageParser:



Public Member Functions

- Node Parse (IToken[ ] tokens)

  Parses tokens and looks for a pattern representing an image link.

Private Attributes

- List< TokenType > **ImageNoNameTemplate** = new List<TokenType>() { TokenType.EXCLAMATIONMARK, TokenType.LEFTSQUAREBRACKET, TokenType.RIGHTSQUAREBRACKET, TokenType.LEFTBRACKET, TokenType.TEXT, TokenType.RIGHTBRACKET }
- List< TokenType > NamedImageTemplate

8.11.1 Detailed Description

A paprser specialised to recognise a token patter representing an image link.

8.11.2 Member Function Documentation

8.11.2.1 Parse()

```
Node MarkdownCompiler.ImageParser.Parse (
            IToken[] tokens )
```

Parses tokens and looks for a pattern representing an image link.

Parameters

tokens	A list of tokens.

Returns

Null if no sequence was found or a node containing the text representing the link and an optional name.

Implements MarkdownCompiler.ISentenceParser.

8.11.3 Member Data Documentation

8.11.3.1 NamedImageTemplate

```
List<TokenType> MarkdownCompiler.ImageParser.NamedImageTemplate  [private]
```

Initial value:

```
= new List<TokenType>() { TokenType.EXCLAMATIONMARK, TokenType.LEFTSQUAREBRACKET, TokenType.TEXT,
                                                        TokenType.RIGHTSQUAREBRACKET,
      TokenType.LEFTBRACKET, TokenType.TEXT, TokenType.RIGHTBRACKET }
```

The documentation for this class was generated from the following file:

- ImageParser.cs

8.12 MarkdownCompiler.IndexFileCreator Class Reference

Public Member Functions

- **IndexFileCreator** (Dictionary< string, string > fileTitles, string configFileName)
- async Task< string > GetIndexFileContents ()

  Returns the contents of the index file(header, all postst and the footer).

Properties

- Dictionary< string, string > **FileTitles** [get]
- bool **IsInsideWebDirectory** [get]
- string **ConfigFileName** [get]

Private Member Functions

- string GetHeader (ConfigContent authorAndTitle)

  Returns a string representing the header of the index page.
- IEnumerable< string > GetPosts ()

  Returns an IEnumerable of strings representing a post which should be written to the index page.
- string GetFooter (ConfigContent authorAndTitle)

  Returns the footer.

8.12.1 Member Function Documentation

8.12.1.1 GetFooter()

```
string MarkdownCompiler.IndexFileCreator.GetFooter (
            ConfigContent authorAndTitle )  [private]
```

Returns the footer.

Parameters

authorAndTitle	A class containg fields WebsiteName and Author.

Returns

A string representing the footer.

8.12.1.2 GetHeader()

```
string MarkdownCompiler.IndexFileCreator.GetHeader (
            ConfigContent authorAndTitle )  [private]
```

Returns a string representing the header of the index page.

Parameters

authorAndTitle	A class containg fields WebsiteName and Author.

Returns

A string representing the header.

8.12.1.3 GetIndexFileContents()

```
async Task< string > MarkdownCompiler.IndexFileCreator.GetIndexFileContents ( )
```

Returns the contents of the index file(header, all poststt and the footer).

Returns

A string representing the contents of the index page.

8.12.1.4 GetPosts()

```
IEnumerable< string > MarkdownCompiler.IndexFileCreator.GetPosts ( )  [private]
```

Returns an IEnumerable of strings representing a post which should be written to the index page.

Returns

IEnumerable of strings.

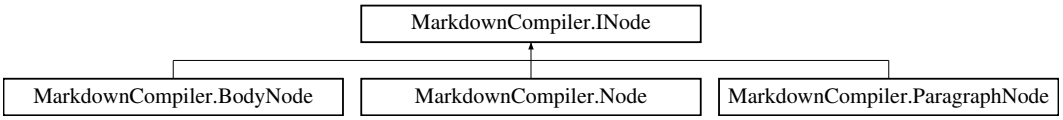
The documentation for this class was generated from the following file:

- IndexFileCreator.cs

8.13 MarkdownCompiler.INode Interface Reference

Represents a node of an Abstract Syntax Tree

Inheritance diagram for MarkdownCompiler.INode:



8.13.1 Detailed Description

Represents a node of an Abstract Syntax Tree

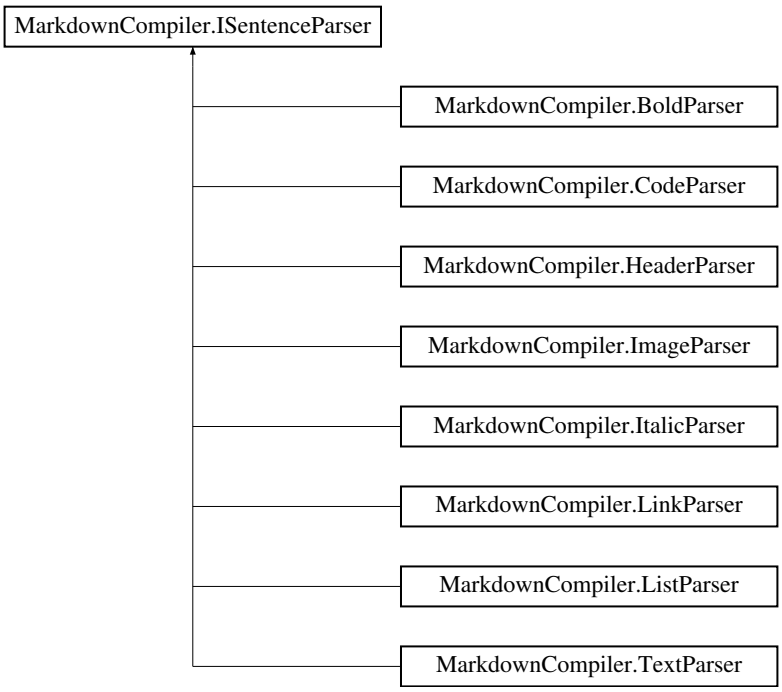
The documentation for this interface was generated from the following file:

- INode.cs

8.14 MarkdownCompiler.ISentenceParser Interface Reference

Represents a parser which looks for a specific set of tags which form a specific sentence.

Inheritance diagram for MarkdownCompiler.ISentenceParser:



Public Member Functions

- Node Parse (IToken[ ] tokens)

  Parses tokens and tries to recognize a certain pattern representing a sentence in the grammar.

8.14.1 Detailed Description

Represents a parser which looks for a specific set of tags which form a specific sentence.

8.14.2 Member Function Documentation

8.14.2.1 Parse()

```
Node MarkdownCompiler.ISentenceParser.Parse (
            IToken[] tokens )
```

Parses tokens and tries to recognize a certain pattern representing a sentence in the grammar.

Parameters

tokens	A list of tokens to be parser.

Returns

Null if no acceptable pattern was found.

Implemented in MarkdownCompiler.BoldParser, MarkdownCompiler.CodeParser, MarkdownCompiler.HeaderParser, MarkdownCompiler.ImageParser, MarkdownCompiler.ItalicParser, MarkdownCompiler.LinkParser, MarkdownCompiler.ListParser, and MarkdownCompiler.TextParser.

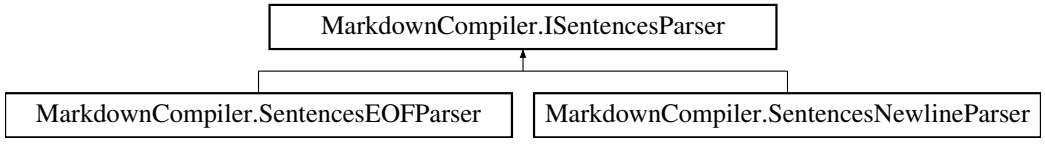
The documentation for this interface was generated from the following file:

- ISentenceParser.cs

8.15 MarkdownCompiler.ISentencesParser Interface Reference

Represents a parser which parses sentences of tokens. Sentence can be for example a bold text, normal text, link, etc.

Inheritance diagram for MarkdownCompiler.ISentencesParser:



Public Member Functions

- ParagraphNode Parse (IToken[ ] tokens)

8.15.1 Detailed Description

Represents a parser which parses sentences of tokens. Sentence can be for example a bold text, normal text, link, etc.

8.15.2 Member Function Documentation

8.15.2.1 Parse()

```
ParagraphNode MarkdownCompiler.ISentencesParser.Parse (
            IToken[] tokens )
```

Implemented in MarkdownCompiler.SentencesEOFParser, and MarkdownCompiler.SentencesNewlineParser.

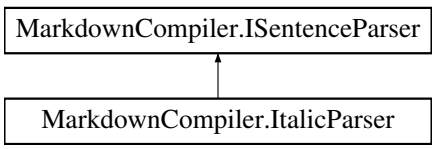
The documentation for this interface was generated from the following file:

- ISentencesParser.cs

8.16 MarkdownCompiler.ItalicParser Class Reference

A paprser specialised to recognise a token patter representing text in italic.

Inheritance diagram for MarkdownCompiler.ItalicParser:



Public Member Functions

- Node Parse (IToken[ ] tokens)

  Parses tokens and looks for a pattern representing text in italic.

Private Attributes

- List< TokenType > **UnderscoreTemplate** = new List<TokenType>() { TokenType.UNDERSCORE, Token↩ Type.TEXT, TokenType.UNDERSCORE }
- List< TokenType > **StarTemplate** = new List<TokenType>() { TokenType.STAR, TokenType.TEXT, Token↩ Type.STAR }

8.16.1 Detailed Description

A paprser specialised to recognise a token patter representing text in italic.

8.16.2 Member Function Documentation

8.16.2.1 Parse()

```
Node MarkdownCompiler.ItalicParser.Parse (
            IToken[] tokens )
```

Parses tokens and looks for a pattern representing text in italic.

Parameters

tokens	A list of tokens.

Returns

Null if no sequence was found or a node containing the text representing the text in italic.

Implements MarkdownCompiler.ISentenceParser.

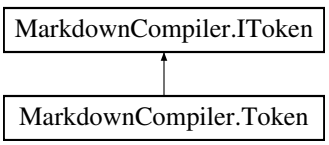
The documentation for this class was generated from the following file:

- ItalicParser.cs

8.17 MarkdownCompiler.IToken Interface Reference

An implementation must represent a token with a type and a value created by the Tokenizer while reading the correct char from the file.

Inheritance diagram for MarkdownCompiler.IToken:



Properties

- TokenType **Type** `[get]`
- string **Value** `[get]`

8.17.1 Detailed Description

An implementation must represent a token with a type and a value created by the Tokenizer while reading the correct char from the file.

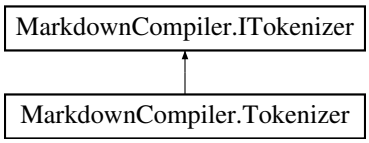
The documentation for this interface was generated from the following file:

- IToken.cs

8.18 MarkdownCompiler.ITokenizer Interface Reference

Must represent a Tokenizer. Must be accompanied by a creation of a specific parser.

Inheritance diagram for MarkdownCompiler.ITokenizer:



Public Member Functions

- List< IToken > Tokenize (string text)

8.18.1 Detailed Description

Must represent a Tokenizer. Must be accompanied by a creation of a specific parser.

8.18.2 Member Function Documentation

8.18.2.1 Tokenize()

```
List< IToken > MarkdownCompiler.ITokenizer.Tokenize (
            string text )
```

Implemented in MarkdownCompiler.Tokenizer.

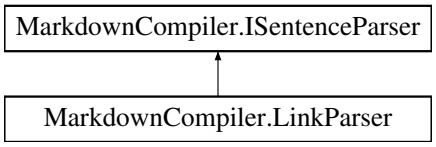
The documentation for this interface was generated from the following file:

- ITokenizer.cs

8.19 MarkdownCompiler.LinkParser Class Reference

A paprser specialised to recognise a token patter representing a link.

Inheritance diagram for MarkdownCompiler.LinkParser:



Public Member Functions

- Node Parse (IToken[ ] tokens)

  Parses tokens and looks for a pattern representing a link.

Private Attributes

- List< TokenType > **LinkNoNameTemplate** = new List<TokenType>() { TokenType.LEFTSQUAREBRACKET, TokenType.RIGHTSQUAREBRACKET, TokenType.LEFTBRACKET, TokenType.TEXT, TokenType.↩ RIGHTBRACKET }
- List< TokenType > NamedLinkTemplate

8.19.1 Detailed Description

A paprser specialised to recognise a token patter representing a link.

8.19.2 Member Function Documentation

8.19.2.1 Parse()

```
Node MarkdownCompiler.LinkParser.Parse (
            IToken[] tokens )
```

Parses tokens and looks for a pattern representing a link.

Parameters

tokens	A list of tokens.

Returns

Null if no sequence was found or a node containing the text representing the link and an optional name.

Implements MarkdownCompiler.ISentenceParser.

8.19.3 Member Data Documentation

8.19.3.1 NamedLinkTemplate

```
List<TokenType> MarkdownCompiler.LinkParser.NamedLinkTemplate  [private]
```

Initial value:

```
= new List<TokenType>() { TokenType.LEFTSQUAREBRACKET, TokenType.TEXT,
                                                        TokenType.RIGHTSQUAREBRACKET,
      TokenType.LEFTBRACKET, TokenType.TEXT, TokenType.RIGHTBRACKET }
```

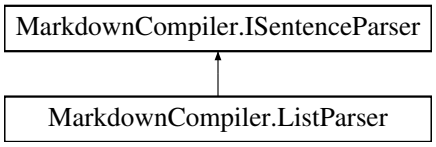
The documentation for this class was generated from the following file:

- LinkParser.cs

8.20 MarkdownCompiler.ListParser Class Reference

A paprser specialised to recognise a token patter representing a unordered list.

Inheritance diagram for MarkdownCompiler.ListParser:



Public Member Functions

- Node Parse (IToken[ ] tokens)

  Parses tokens and looks for a pattern representing a member of an unordered list.

8.20.1 Detailed Description

A paprser specialised to recognise a token patter representing a unordered list.

8.20.2 Member Function Documentation

8.20.2.1 Parse()

```
Node MarkdownCompiler.ListParser.Parse (
            IToken[] tokens )
```

Parses tokens and looks for a pattern representing a member of an unordered list.

Parameters

tokens	A list of tokens.

Returns

Null if no sequence was found or a node containing the text representing a member of an unordered list.

Implements MarkdownCompiler.ISentenceParser.

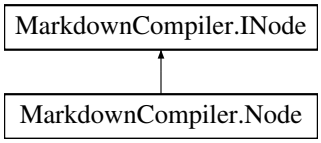
The documentation for this class was generated from the following file:

- ListParser.cs

8.21 MarkdownCompiler.Node Class Reference

A node representing a sentence in the grammar.

Inheritance diagram for MarkdownCompiler.Node:



Static Public Member Functions

- static Node **NodeFactory** (NodeType type, string value, int consumed)
- static Node **NamedNodeFactory** (NodeType type, string value, int consumed, string name)

Properties

- NodeType **Type** `[get]`
- string **Value** `[get]`
- int **Consumed** `[get]`
- string **Name** `[get, set]`

Private Member Functions

- **Node** (NodeType type, string value, int consumed)
- **Node** (NodeType type, string value, int consumed, string name)

8.21.1 Detailed Description

A node representing a sentence in the grammar.

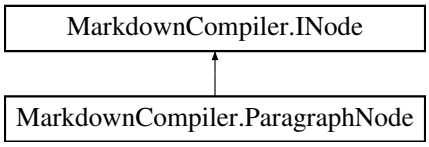
The documentation for this class was generated from the following file:

- Node.cs

8.22 MarkdownCompiler.ParagraphNode Class Reference

A node representing a paragraph. Contains all sentences inside of the paragraph.

Inheritance diagram for MarkdownCompiler.ParagraphNode:



Static Public Member Functions

- static ParagraphNode **ParagraphNodeFactory** (List< Node > sentences, int consumed)

Properties

- List< Node > **Sentences** `[get]`
- int **Consumed** `[get]`

Private Member Functions

- **ParagraphNode** (List< Node > sentences, int consumed)

8.22.1 Detailed Description

A node representing a paragraph. Contains all sentences inside of the paragraph.

The documentation for this class was generated from the following file:

- ParagraphNode.cs

8.23 MarkdownCompiler.ParagraphParser Class Reference

A paprser specialised to recognise a paragraph node from the list of tokens.

Public Member Functions

- ParagraphNode Parse (IToken[ ] tokens)

  Parses the given tokens. Tries to find a paragraph in the tokens.

Private Member Functions

- ParagraphNode MatchOneParagraph (IToken[ ] tokens, ISentencesParser[ ] parsers)

  Matches one paragraph from the tokens. Tries different sentence parsers until a pararaph is found.

8.23.1 Detailed Description

A paprser specialised to recognise a paragraph node from the list of tokens.

8.23.2 Member Function Documentation

8.23.2.1 MatchOneParagraph()

```
ParagraphNode MarkdownCompiler.ParagraphParser.MatchOneParagraph (
            IToken[] tokens,
            ISentencesParser[] parsers )  [private]
```

Matches one paragraph from the tokens. Tries different sentence parsers until a pararaph is found.

Parameters

tokens	A list of tokens.
parsers	Parser which parse the tokens until a match is found.

Returns

Null if no match was found or a ParagraphNode.

8.23.2.2 Parse()

```
ParagraphNode MarkdownCompiler.ParagraphParser.Parse (
            IToken[] tokens )
```

Parses the given tokens. Tries to find a paragraph in the tokens.

Parameters

tokens	A list of tokens to be parsed.

Returns

Null if no sequence was found or a ParagraphNode containing sentences.

The documentation for this class was generated from the following file:

- ParagraphParser.cs

8.24 MarkdownCompiler.Parser Class Reference

Static Public Member Functions

- static IEnumerable< ParagraphNode > **GetAllParagraphs** (IToken[ ] tokens)

The documentation for this class was generated from the following file:

- Parser.cs

8.25 StaticSiteGenerator.Program Class Reference

Class containing the Main method.

Static Private Member Functions

- static async Task Main (string[ ] args)

  The main entrypoint of the program. If no arguments are given to the program the generator will create the correct directories and a config file. If the argument "compile" is given, the generator will create the output directory compile all markdown files into HTML.

8.25.1 Detailed Description

Class containing the Main method.

8.25.2 Member Function Documentation

8.25.2.1 Main()

```
static async Task StaticSiteGenerator.Program.Main (
            string[] args )  [static], [private]
```

The main entrypoint of the program. If no arguments are given to the program the generator will create the correct directories and a config file. If the argument "compile" is given, the generator will create the output directory compile all markdown files into HTML.

Parameters

args	

The documentation for this class was generated from the following file:

- Program.cs

8.26 MarkdownCompiler.SentenceParser Class Reference

A paprser specialised to recognise a sentence node from the list of tokens.

Public Member Functions

- Node Parse (IToken[ ] tokens)
  Parses the given tokens. Tries to find a sentence in the tokens.

Static Public Member Functions

- static bool CheckTypes (IToken[ ] tokens, List< TokenType > template)
  Tries to find a pattern corresponding to a template pattern.

Private Member Functions

- Node MatchOneSentence (IToken[ ] tokens, ISentenceParser[ ] parsers)
  Matches one sentence from the tokens. Tries different sentence parsers until a sentence is found.

Private Attributes

- ISentenceParser[ ] SentenceParsers

8.26.1 Detailed Description

A paprser specialised to recognise a sentence node from the list of tokens.

8.26.2 Member Function Documentation

8.26.2.1 CheckTypes()

```
static bool MarkdownCompiler.SentenceParser.CheckTypes (
            IToken[ ] tokens,
            List< TokenType > template )  [static]
```

Tries to find a pattern corresponding to a template pattern.

Parameters

tokens	Tokens to be checked.
template	A template list.

Returns

False if the two lists differ or true if a match is found.

8.26.2.2 MatchOneSentence()

```
Node MarkdownCompiler.SentenceParser.MatchOneSentence (
            IToken[] tokens,
            ISentenceParser[] parsers )  [private]
```

Matches one sentence from the tokens. Tries different sentence parsers until a sentence is found.

Parameters

tokens	A list of tokens.
parsers	Parser which parse the tokens until a match is found./param>
	Returns
	Null if no match was found or a Node.

8.26.2.3 Parse()

```
Node MarkdownCompiler.SentenceParser.Parse (
            IToken[] tokens )
```

Parses the given tokens. Tries to find a sentence in the tokens.

Parameters

tokens	A list of tokens to be parsed.

Returns

Null if no sequence was found or a Node representing sentence.

8.26.3 Member Data Documentation

8.26.3.1 SentenceParsers

```
ISentenceParser [] MarkdownCompiler.SentenceParser.SentenceParsers  [private]
```

Initial value:

```
= new ISentenceParser[] { new ImageParser(), new LinkParser(), new ItalicParser(), new BoldParser(),
            new CodeParser(), new ListParser(), new HeaderParser(), new TextParser() }
```

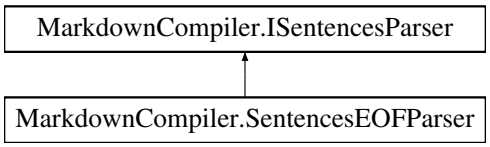
The documentation for this class was generated from the following file:

- SentenceParser.cs

8.27 MarkdownCompiler.SentencesEOFParser Class Reference

A paprser specialised to recognise a sentences followed by the End of File character.

Inheritance diagram for MarkdownCompiler.SentencesEOFParser:



Public Member Functions

- ParagraphNode Parse (IToken[ ] tokens)

  Parses the given tokens. Tries to find all sentences which are part of a paragraph in the tokens.

Private Member Functions

- void MatchAllSentences (IToken[ ] tokens, SentenceParser sentenceParser, out List< Node > sentences, out int consumed)

  Tries to find all sentences which make up a paragraph.

8.27.1 Detailed Description

A paprser specialised to recognise a sentences followed by the End of File character.

8.27.2 Member Function Documentation

8.27.2.1 MatchAllSentences()

```
void MarkdownCompiler.SentencesEOFParser.MatchAllSentences (
            IToken[ ] tokens,
            SentenceParser sentenceParser,
            out List< Node > sentences,
            out int consumed )  [private]
```

Tries to find all sentences which make up a paragraph.

Parameters

tokens	A list of tokens.
sentenceParser	A sentence parser.
sentences	Found sentences.
consumed	How many tokens have been consumed.

8.27.2.2 Parse()

```
ParagraphNode MarkdownCompiler.SentencesEOFParser.Parse (
            IToken[] tokens )
```

Parses the given tokens. Tries to find all sentences which are part of a paragraph in the tokens.

Parameters

tokens	A list of tokens.

Returns

Null if no paragraph was found or a ParagraphNode.

Implements MarkdownCompiler.ISentencesParser.

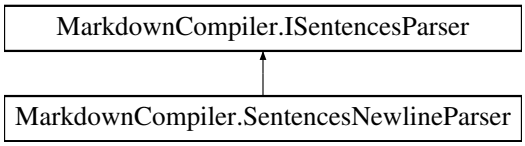
The documentation for this class was generated from the following file:

- SentencesEOFParser.cs

8.28 MarkdownCompiler.SentencesNewlineParser Class Reference

A paprser specialised to recognise a sentences followed by an empty line.

Inheritance diagram for MarkdownCompiler.SentencesNewlineParser:



Public Member Functions

- ParagraphNode Parse (IToken[ ] tokens)

  Parses the given tokens. Tries to find all sentences which are part of a paragraph in the tokens followed by an empty line.

Private Member Functions

- void MatchAllSentences (IToken[ ] tokens, SentenceParser sentenceParser, out List< Node > sentences, out int consumed)

  Tries to find all sentences which make up a paragraph.

8.28.1 Detailed Description

A paprser specialised to recognise a sentences followed by an empty line.

8.28.2 Member Function Documentation

8.28.2.1 MatchAllSentences()

```
void MarkdownCompiler.SentencesNewlineParser.MatchAllSentences (
            IToken[] tokens,
            SentenceParser sentenceParser,
            out List< Node > sentences,
            out int consumed )  [private]
```

Tries to find all sentences which make up a paragraph.

Parameters

tokens	A list of tokens.
sentenceParser	A sentence parser.
sentences	Found sentences.
consumed	How many tokens have been consumed.

8.28.2.2 Parse()

```
ParagraphNode MarkdownCompiler.SentencesNewlineParser.Parse (
            IToken[] tokens )
```

Parses the given tokens. Tries to find all sentences which are part of a paragraph in the tokens followed by an empty line.

Parameters

tokens	A list of tokens.

Returns

Null if no paragraph was found or a ParagraphNode.

Implements MarkdownCompiler.ISentencesParser.

The documentation for this class was generated from the following file:

- SentencesNewlineParser.cs

8.29 MarkdownCompiler.SpecialCharScanner Class Reference

Static Public Member Functions

- static IToken ScanChar (char character)

  Checks if a character has been assigned a specific tag and returns one if it does.

8.29.1 Member Function Documentation

8.29.1.1 ScanChar()

```
static IToken MarkdownCompiler.SpecialCharScanner.ScanChar (
            char character )  [static]
```

Checks if a character has been assigned a specific tag and returns one if it does.

Parameters

text	Markdown text

Returns

Will return a tag of a special type. Will return null if no special tag is assigned.

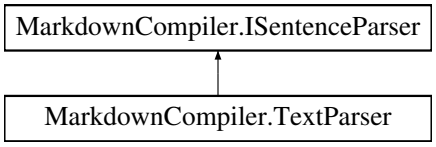
The documentation for this class was generated from the following file:

- Tokenizer.cs

8.30 MarkdownCompiler.TextParser Class Reference

A paprser specialised to recognise a token patter representing plain text.

Inheritance diagram for MarkdownCompiler.TextParser:



Public Member Functions

- Node Parse (IToken[ ] tokens)

  Parses tokens and looks for a pattern representing plain text.

8.30.1 Detailed Description

A paprser specialised to recognise a token patter representing plain text.

8.30.2 Member Function Documentation

8.30.2.1 Parse()

```
Node MarkdownCompiler.TextParser.Parse (
            IToken[] tokens )
```

Parses tokens and looks for a pattern representing plain text.

Parameters

tokens	A list of tokens.

Returns

Null if no sequence was found or a node containing the text.

Implements MarkdownCompiler.ISentenceParser.

The documentation for this class was generated from the following file:

- TextParser.cs

8.31 MarkdownCompiler.TextScanner Class Reference

Static Public Member Functions

- static IToken ScanChar (string text)

  Consumes text until it finds a character with a specific assigned tag. Creates a new TEXT token containg the found text.

8.31.1 Member Function Documentation

8.31.1.1 ScanChar()

```
static IToken MarkdownCompiler.TextScanner.ScanChar (
            string text )  [static]
```

Consumes text until it finds a character with a specific assigned tag. Creates a new TEXT token containg the found text.

Parameters

text	Markdown text

Returns

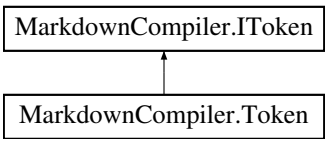
A token of the type TEXT containg the found text.

The documentation for this class was generated from the following file:

- Tokenizer.cs

8.32 MarkdownCompiler.Token Class Reference

Inheritance diagram for MarkdownCompiler.Token:



Static Public Member Functions

- static Token **TokenFactory** (TokenType Type, string Value)

Properties

- TokenType Type `[get]`
- string Value `[get]`

Private Member Functions

- **Token** (TokenType type, string value)

8.32.1 Property Documentation

8.32.1.1 Type

```
TokenType MarkdownCompiler.Token.Type  [get]
```

Implements MarkdownCompiler.IToken.

8.32.1.2 Value

```
string MarkdownCompiler.Token.Value  [get]
```

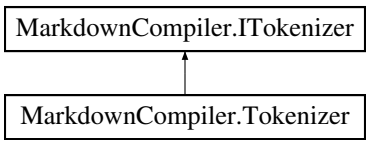
Implements MarkdownCompiler.IToken.

The documentation for this class was generated from the following file:

- BaseToken.cs

8.33 MarkdownCompiler.Tokenizer Class Reference

Inheritance diagram for MarkdownCompiler.Tokenizer:



Public Member Functions

- List< IToken > Tokenize (string text)

  Tokenizes the markdown text. See the enum TokenType to see all the different possible tags.

Private Member Functions

- List< IToken > TokensToList (string text, List< IToken > tokens)

  Takes the markdown text and turns it into a list of tokens.
- IToken CreateToken (string text)

  Create a token from a singe character or a text token from multiple characters.

8.33.1 Member Function Documentation

8.33.1.1 CreateToken()

```
IToken MarkdownCompiler.Tokenizer.CreateToken (
            string text )  [private]
```

Create a token from a singe character or a text token from multiple characters.

Parameters

text	Markdown text.

Returns

A single token.

8.33.1.2 Tokenize()

```
List< IToken > MarkdownCompiler.Tokenizer.Tokenize (
            string text )
```

Tokenizes the markdown text. See the enum TokenType to see all the different possible tags.

Parameters

text	A markdown text set to be Tokenized.

Returns

A List of tokens containing the found tokens. Will return null if the input text was null.

Implements MarkdownCompiler.ITokenizer.

8.33.1.3 TokensToList()

```
List< IToken > MarkdownCompiler.Tokenizer.TokensToList (
            string text,
            List< IToken > tokens )  [private]
```

Takes the markdown text and turns it into a list of tokens.

Parameters

text	A markdown text to be tokenized.
tokens	An(empty) array of tokens.

Returns

A list of tokens.

The documentation for this class was generated from the following file:

- Tokenizer.cs

8.34 StaticSiteGeneratorTests.TokenizerTests Class Reference

Public Member Functions

- void **TokenizeTextNotNUll** ()
- void **TokenizeTextNoText** ()
- void **TokenizeTextCountMoreThanZero** ()
- void **TokenizeNullString** ()

The documentation for this class was generated from the following file:

- TokenizerTests.cs

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