Introduction into Sitecore Content Serialization

Gerhart Magdas
Sitecore developer at ddroidd

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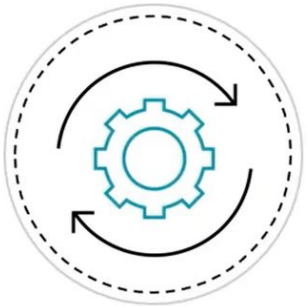
Sitecore User Group Cluj-Napoca

Agenda

- Sitecore serialization brief history
- Sitecore Content Serialization
- Sitecore CLI
- Sitecore for Visual Studio
- Sitecore Content Serialization vs Unicorn
- Code generation with SCS using Leprechaun

Sitecore Serialization History



.item

First native
Serialization format

TDS

Paid UI tool,
working with .item

Third party

Unicorn

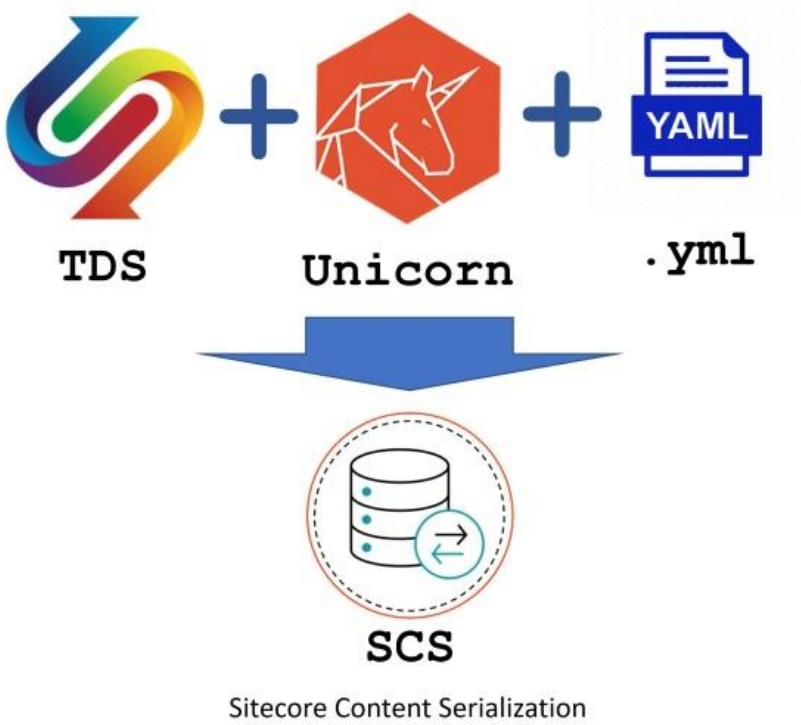
Free tool,
works with .yml

Third party

.yml

Human readable
Data serialization
Implemented by Rainbow

Sitecore 10



Sitecore Content Serialization

- JSON configurations format
- Configuration for Solution and Project modules
- Modular Architecture

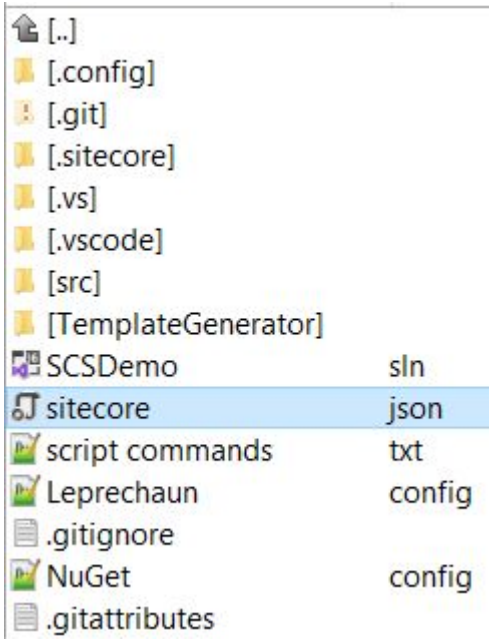
Setup

Install in your sitecore instance the **Sitecore Management Services Module**:
https://dev.sitecore.net/Downloads/Sitecore_CLI/3x/Sitecore_CLI_300.aspx

Execute the following command lines at your solution:

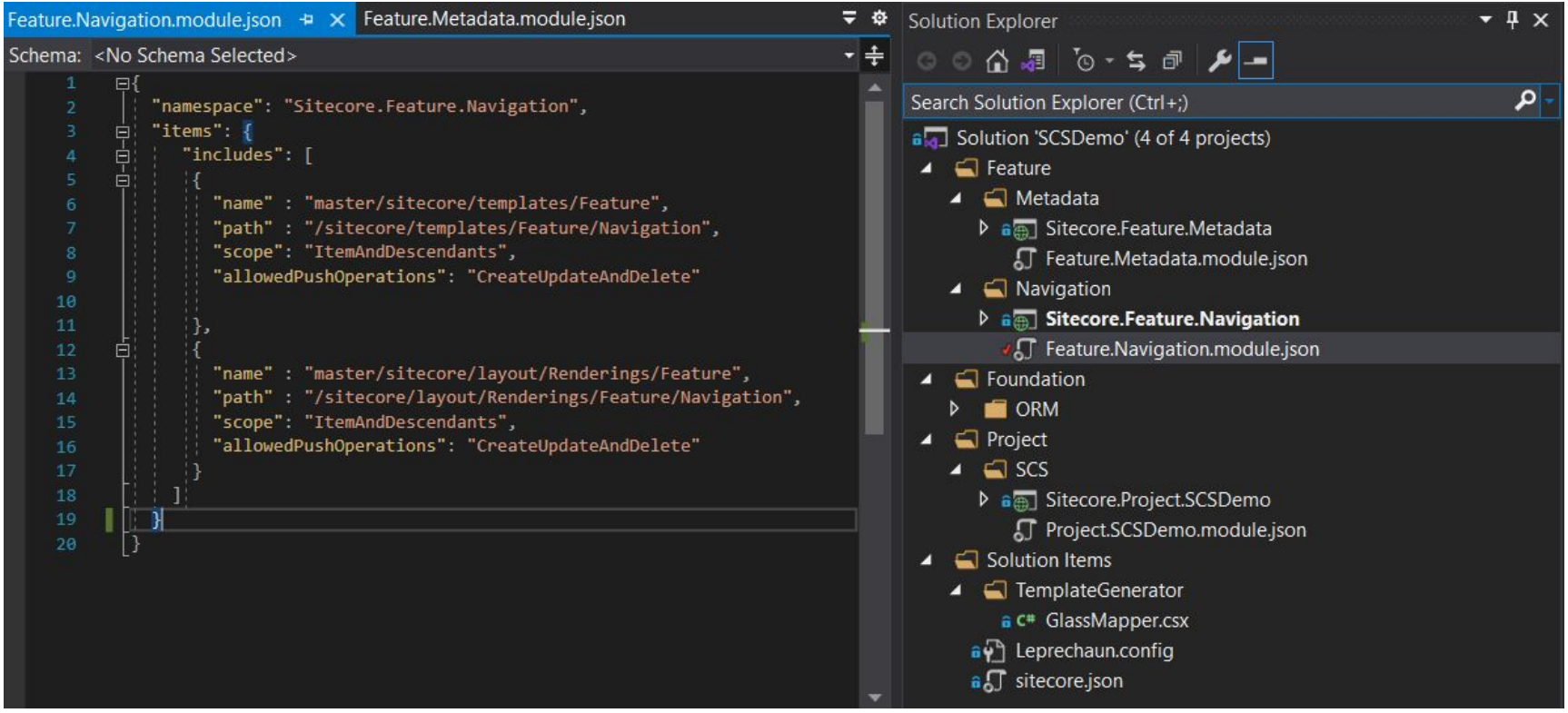
```
dotnet new tool-manifest
dotnet nuget add source -n Sitecore https://sitecore.myget.org/F/sc-packages/api/v3/index.json
dotnet tool install Sitecore.CLI
dotnet sitecore plugin add -n Sitecore.DevEx.Extensibility.Publishing
dotnet sitecore plugin add -n Sitecore.DevEx.Extensibility.Serialization
```

Solution configuration




```
{
  "$schema": "./.sitecore/schemas/RootConfigurationFile.schema.json",
  "modules": [
    "src/*/*/*.module.json"
  ],
  "plugins": [
    "Sitecore.DevEx.Extensibility.Publishing@3.0.0",
    "Sitecore.DevEx.Extensibility.Serialization@3.0.0"
  ],
  "serialization": {
    "defaultMaxRelativeItemPathLength": 120,
    "defaultModuleRelativeSerializationPath": "serialization"
  }
}
```

Project Modules Configuration

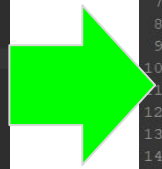


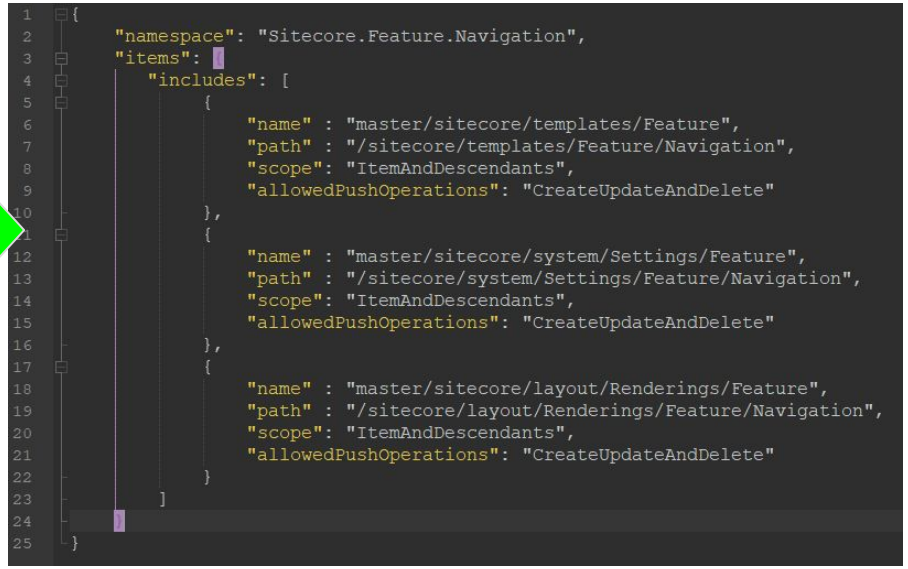
Configuration Properties

Property	Required	Valid values	Default value
`name`	Yes	String	None
`path`	Yes	String	None
`scope`	No	`SingleItem`, `ItemAndChildren`, `ItemAndDescendants`, and `DescendantsOnly`.	`ItemAndDescendants`
`database`	No	`master` or `core`	`master`
`maxRelativePathLength`	No	Number	`130`
`allowedPushOperations`	No	`CreateOnly`, `CreateAndUpdate`, and `CreateUpdateAndDelete`	`CreateUpdateAndDelete`

Ordering is very important!!!

```
{
    "namespace": "Sitecore.Feature.Navigation",
    "items": {
        "includes": [
            {
                "name" : "master/sitecore/system/Settings/Feature",
                "path" : "/sitecore/system/Settings/Feature/Navigation",
                "scope": "ItemAndDescendants",
                "allowedPushOperations": "CreateUpdateAndDelete"
            },
            {
                "name" : "master/sitecore/templates/Feature",
                "path" : "/sitecore/templates/Feature/Navigation",
                "scope": "ItemAndDescendants",
                "allowedPushOperations": "CreateUpdateAndDelete"
            },
            {
                "name" : "master/sitecore/layout/Renderings/Feature",
                "path" : "/sitecore/layout/Renderings/Feature/Navigation",
                "scope": "ItemAndDescendants",
                "allowedPushOperations": "CreateUpdateAndDelete"
            }
        ]
    }
}
```





```
{
    "namespace": "Sitecore.Feature.Navigation",
    "items": {
        "includes": [
            {
                "name" : "master/sitecore/templates/Feature",
                "path" : "/sitecore/templates/Feature/Navigation",
                "scope": "ItemAndDescendants",
                "allowedPushOperations": "CreateUpdateAndDelete"
            },
            {
                "name" : "master/sitecore/system/Settings/Feature",
                "path" : "/sitecore/system/Settings/Feature/Navigation",
                "scope": "ItemAndDescendants",
                "allowedPushOperations": "CreateUpdateAndDelete"
            },
            {
                "name" : "master/sitecore/layout/Renderings/Feature",
                "path" : "/sitecore/layout/Renderings/Feature/Navigation",
                "scope": "ItemAndDescendants",
                "allowedPushOperations": "CreateUpdateAndDelete"
            }
        ]
    }
}
```

Rules

```
"items": {
    "includes": [
        "name" : "master/sitecore/content/Home",
        "path" : "/sitecore/content/Home",
        "rules" : [
            {
                "path" : "/Articles/Legacy",
                "scope": "ignored"
            },
            {
                "path" : "/Articles",
                "scope": "ItemAndDescendants",
                "allowedPushOperations": "CreateUpdateAndDelete"
            },
            {
                "path" : "*",
                "scope" : "ignored"
            }
        ]
    ]
}
```

Property	Required	Allowed values	Default value
`path`	Yes	String	None
`scope`	Yes	`Ignored`, `SingleItem`, `ItemAndChildren`, and `ItemAndDescendants`	None
`alias`	No	String	None
`allowedPushOperations`	No	`CreateOnly`, `CreateAndUpdate`, and `CreateUpdateAndDelete`	Inherited from parent

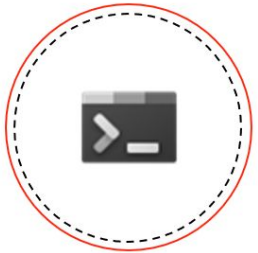
Tools for Serialization

Serialization

Headless serialization combining the best of TDS and Unicorn

Serialize developer-owned or demo content

Scriptable deployment of content items across environments.



OR

Sitecore CLI

Serialization from the command line

Also supports login and publishing

Sitecore for Visual Studio

Configure serialization and sync directly within Visual Studio

Sitecore CLI

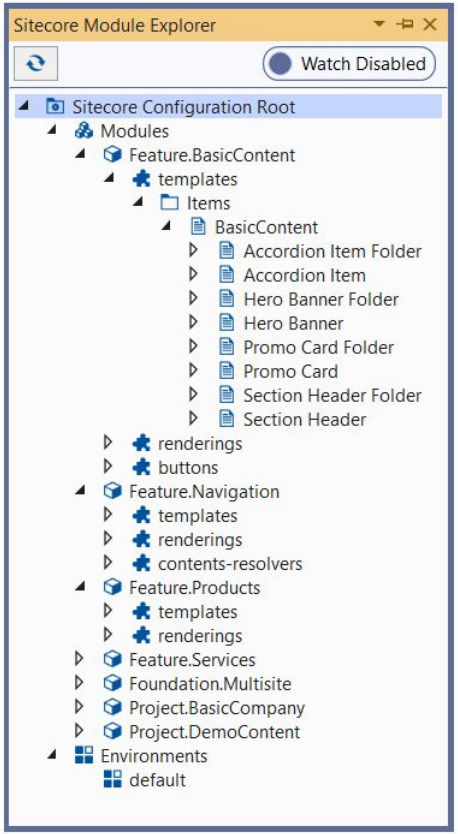
- Headless
- .NET Core tool
- Really Well documented
- CI/CD friendly

Sitecore CLI Demo

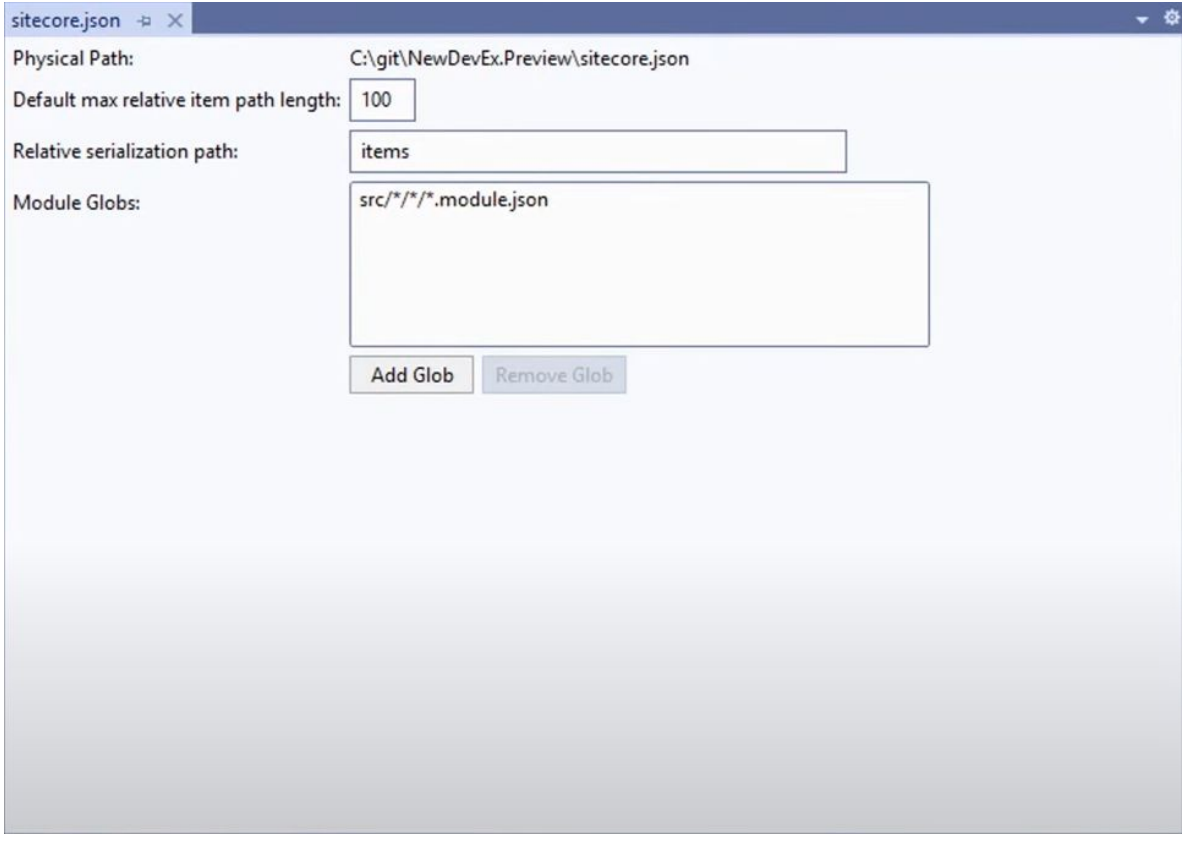
Sitecore for Visual Studio – SVS

- UI similar to TDS at sync etc, using CLI
- UI for solution/module configurations
- Watch and automatic serialization

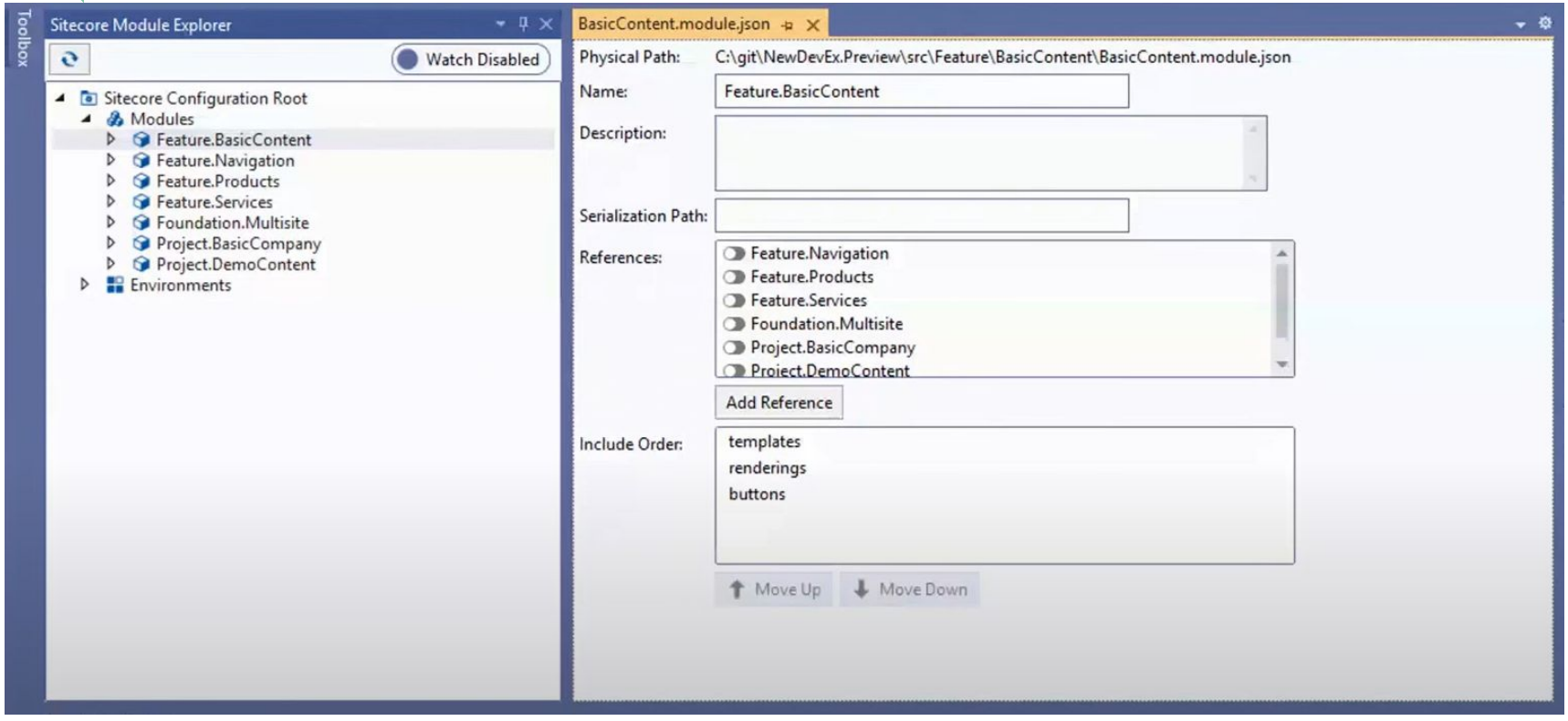
SVS Module


Sitecore Module Explorer
Watch Disabled
Sitecore Configuration Root
Modules
Feature.BasicContent
templates
Items
BasicContent
Accordion Item Folder
Accordion Item
Hero Banner Folder
Hero Banner
Promo Card Folder
Promo Card
Section Header Folder
Section Header
renderings
buttons
Feature.Navigation
templates
renderings
contents-resolvers
Feature.Products
templates
renderings
Feature.Services
Foundation.Multisite
Project.BasicCompany
Project.DemoContent
Environments
default

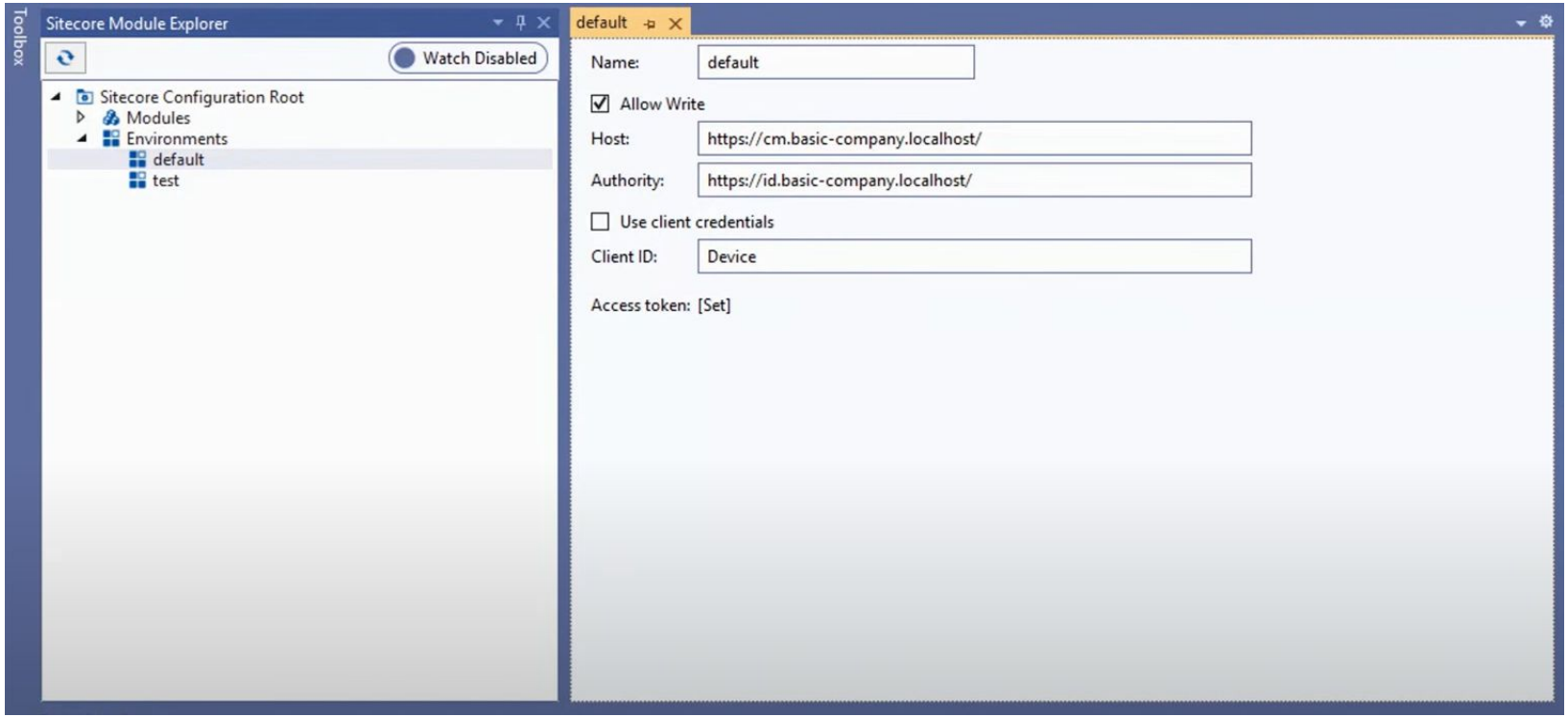
Solution Configuration



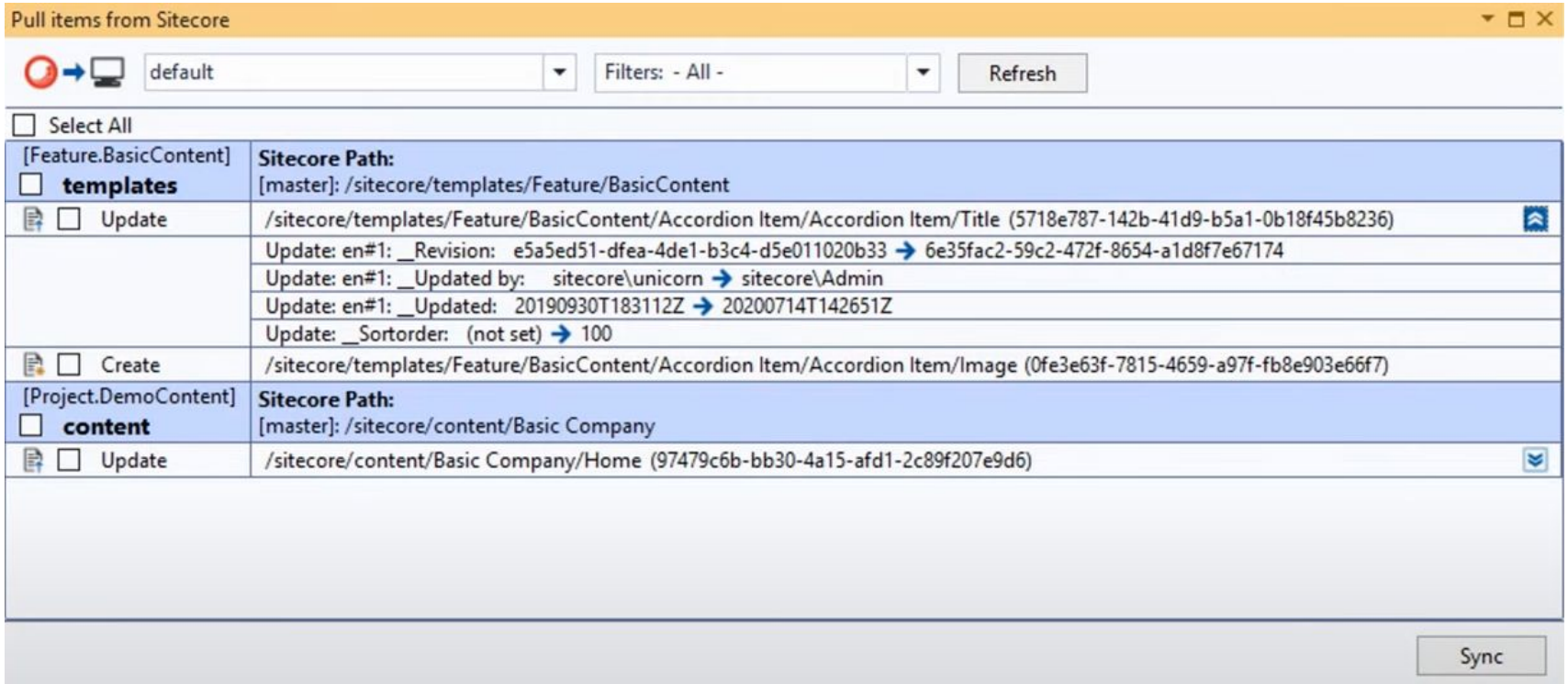
Module Configuration



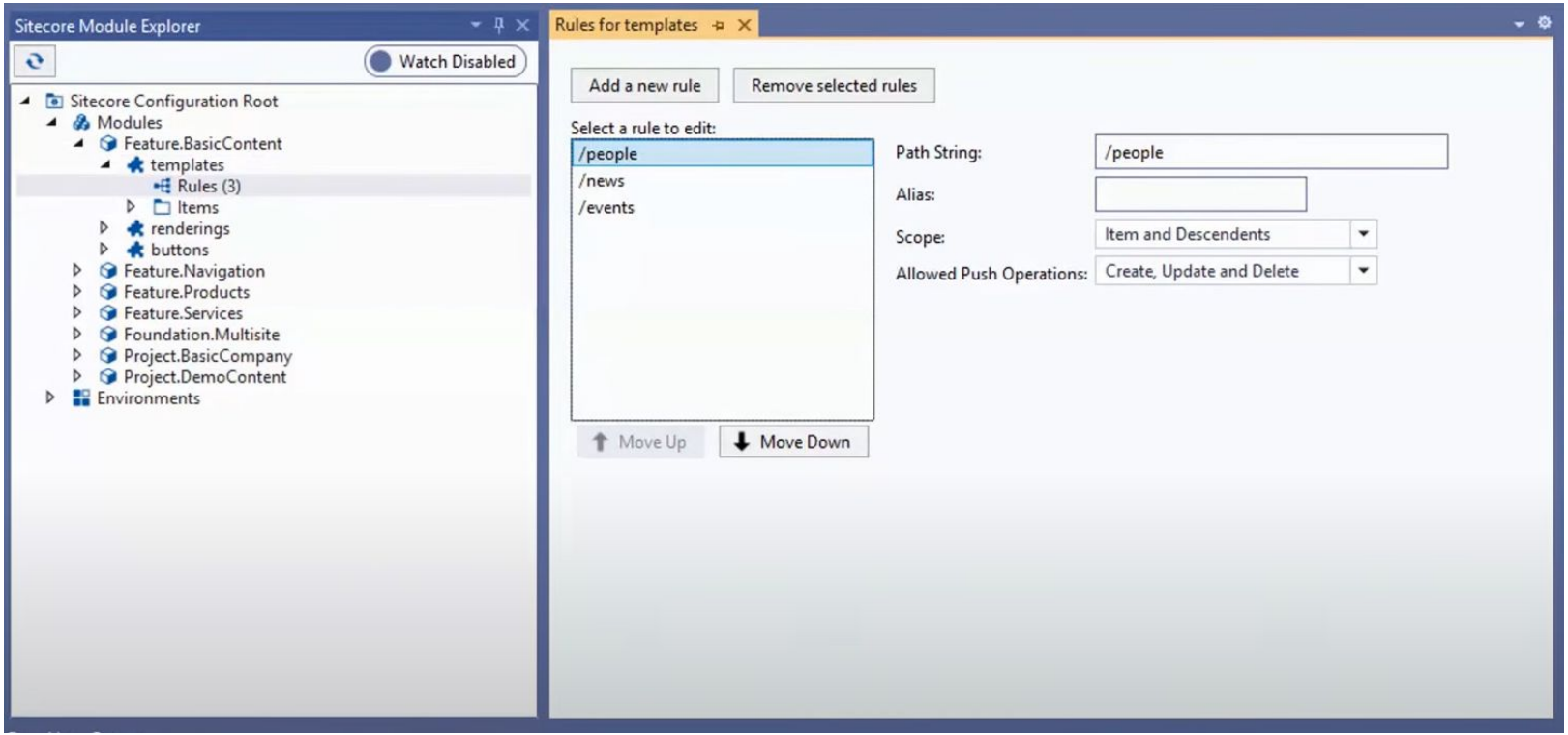
Environment Configuration



Comparison Tool



Sync Configuration

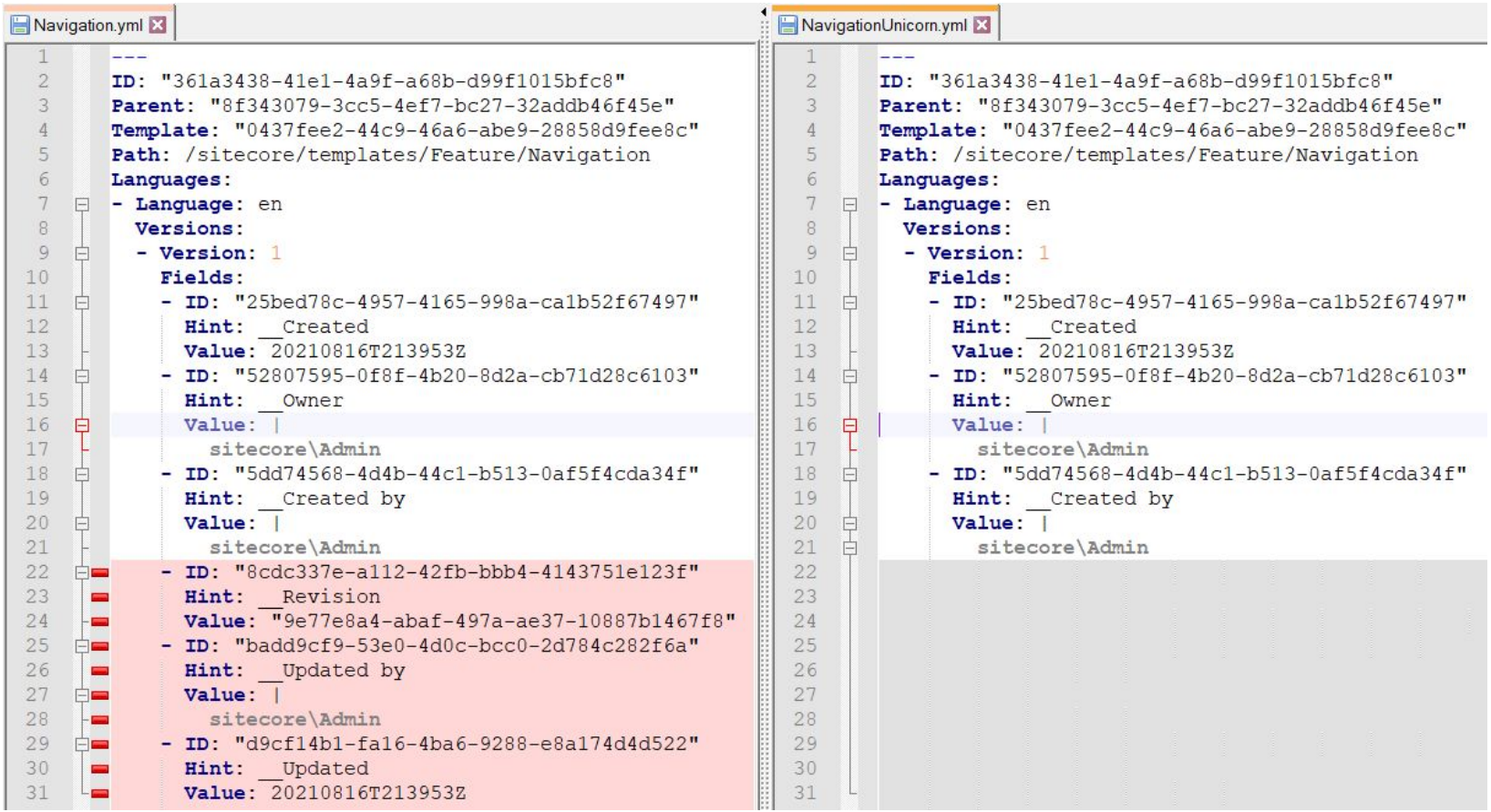


SCS VS Unicorn

Unicorn	SCS
• Configurations with .config files • **Reserialyze** or **Automatic sync** • **User/Roles synchronization** • **Sync all the things** • .yml and folders used in serialization	• Configurations with .json files • Manually using **dotnet sitecore ser pull** • User/Roles synchronization **not released yet** • **dotnet sitecore ser push** • .yml, folder, .scindex(for performance) used in serialization

Different serialized YML files between SCS and Unicorn serialization

YML difference



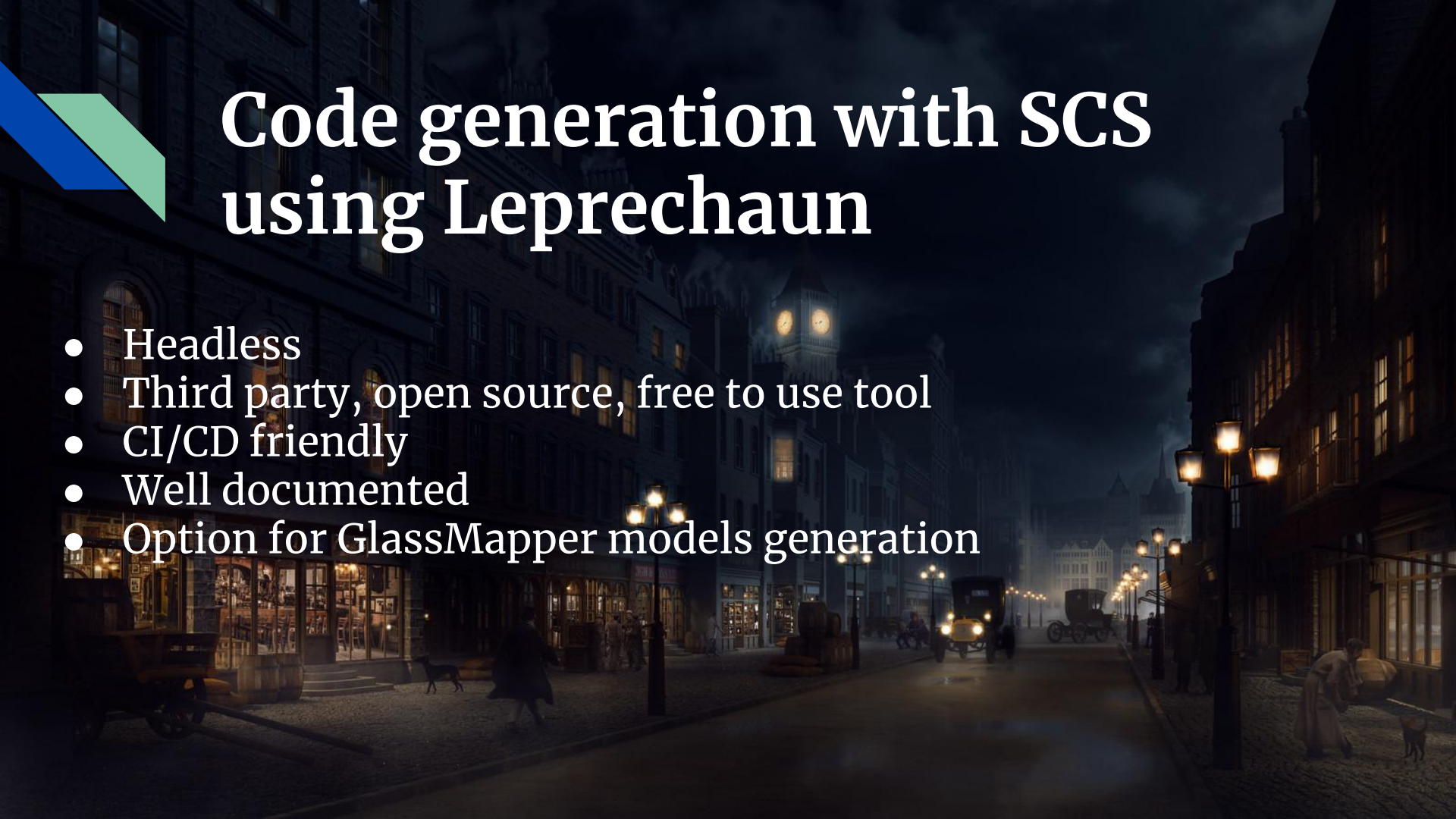
Navigation.yml

```yaml
---
ID: "361a3438-41e1-4a9f-a68b-d99f1015bfc8"
Parent: "8f343079-3cc5-4ef7-bc27-32addb46f45e"
Template: "0437fee2-44c9-46a6-abe9-28858d9fee8c"
Path: /sitecore/templates/Feature/Navigation
Languages:
- Language: en
  Versions:
  - Version: 1
    Fields:
    - ID: "25bed78c-4957-4165-998a-ca1b52f67497"
      Hint: __Created
      Value: 20210816T213953Z
    - ID: "52807595-0f8f-4b20-8d2a-cb71d28c6103"
      Hint: __Owner
      Value: |
        sitecore\Admin
    - ID: "5dd74568-4d4b-44c1-b513-0af5f4cda34f"
      Hint: __Created by
      Value: |
        sitecore\Admin
    - ID: "8cdc337e-a112-42fb-bbb4-4143751e123f"
      Hint: __Revision
      Value: "9e77e8a4-abaf-497a-ae37-10887b1467f8"
    - ID: "badd9cf9-53e0-4d0c-bcc0-2d784c282f6a"
      Hint: __Updated by
      Value: |
        sitecore\Admin
    - ID: "d9cf14b1-fa16-4ba6-9288-e8a174d4d522"
      Hint: __Updated
      Value: 20210816T213953Z
```

NavigationUnicorn.yml

```yaml
---
ID: "361a3438-41e1-4a9f-a68b-d99f1015bfc8"
Parent: "8f343079-3cc5-4ef7-bc27-32addb46f45e"
Template: "0437fee2-44c9-46a6-abe9-28858d9fee8c"
Path: /sitecore/templates/Feature/Navigation
Languages:
- Language: en
  Versions:
  - Version: 1
    Fields:
    - ID: "25bed78c-4957-4165-998a-ca1b52f67497"
      Hint: __Created
      Value: 20210816T213953Z
    - ID: "52807595-0f8f-4b20-8d2a-cb71d28c6103"
      Hint: __Owner
      Value: |
        sitecore\Admin
    - ID: "5dd74568-4d4b-44c1-b513-0af5f4cda34f"
      Hint: __Created by
      Value: |
        sitecore\Admin
```

Code generation with SCS using Leprechaun



- Headless
- Third party, open source, free to use tool
- CI/CD friendly
- Well documented
- Option for GlassMapper models generation

Leprechaun Demo

Contact

https://gerhartmagdas.wordpress.com/
my personal blog

@gmagdas92

gerhart92work@gmail.com

gerhart92
on Sitecore Community slack channel

Thanks

https://github.com/gerhart92/scs-demo
https://gerhartmagdas.wordpress.com/2021/05/17/leprechaun-glassmapper-model-generation-with-sitecore-content-serialized-items/
https://gerhartmagdas.wordpress.com/2021/04/23/introduce-sitecore-content-serialization/

https://github.com/blipson89/Leprechaun
https://www.teamdevelopmentforsitecore.com/Sitecore-for-Visual-Studio
https://doc.sitecore.com/en/developers/100/developer-tools/sitecore-content-serialization.html
https://vohil.net/2020/08/10/sitecore-10-sitecore-content-serialization/