



# Sitecore CLI

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Horizon

# Agenda

- What is SCS?
- Why SCS?
- How to use SCS?
  - Sitecore CLI
- Module creation conventions

# What is SCS?

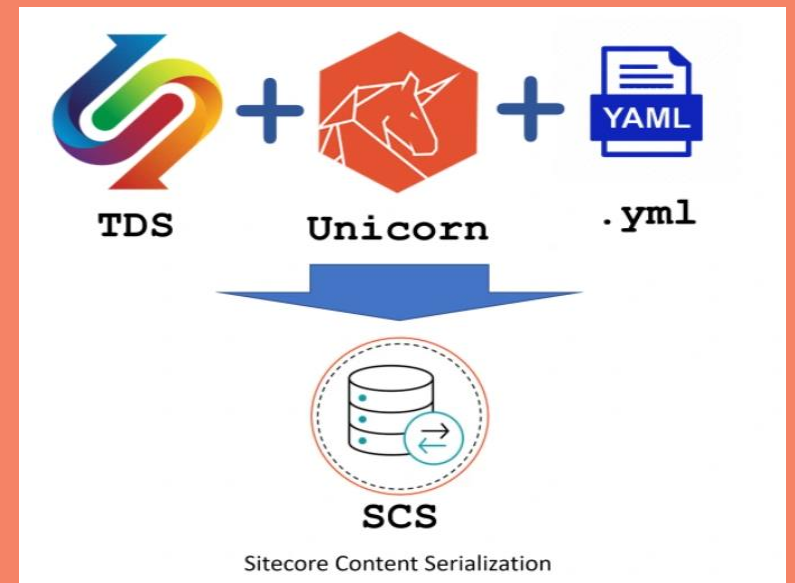


- SCS – Sitecore Content Serialization
- A system for serializing, sharing and deploying content items, as well as keeping them in version control.
- This functionality is designed to help team of developers who work on the same Sitecore solution to synchronize database changes between their individual development environments.
- Introduced in Sitecore 10.

# Why SCS?

- It is out of the box (OOTB) in SC10.
- Lightweight as based on JSON.
- Easy to resolve conflicts in JSON file.
- Sitecore has acquired TDS and we already had free tool called unicorn, SCS is “**Best of both**”

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# How to use SCS?



## Sitecore CLI

Serialization from the  
command line

Also supports login and  
publishing

OR



## Sitecore for Visual Studio

Configure serialization and  
sync directly within Visual  
Studio

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# Installing/Configuring Sitecore CLI with Sitecore

# Steps



1. Inform Sitecore – We are going to use Sitecore CLI.
2. Add the Manifest
3. Install Sitecore CLI
4. Initialize Sitecore CLI
5. Authorize CLI to connect to Sitecore
6. Perform CLI Operations - Serialization

# Steps in action!

- **Pre-requisite:** Installing Sitecore.ManagementServices package
  - Dev Sitecore Portal – A quick look -  
[https://dev.sitecore.net/Downloads/Sitecore\\_CLI.aspx](https://dev.sitecore.net/Downloads/Sitecore_CLI.aspx)
  - .Net Core 3.1
- **PowerShell/Terminal – Open a Directory**
  - dotnet new tool-manifest
  - dotnet tool install Sitecore.CLI --add-source  
<https://sitecore.myget.org/F/sc-packages/api/v3/index.json> --version  
[5.1.25](#)
  - dotnet Sitecore init

C:\> Administrator: Command Prompt

```
Microsoft Windows [Version 10.0.19045.3208]  
(c) Microsoft Corporation. All rights reserved.
```

```
C:\windows\system32>cd C:\TUSHAR\Training\FED-Training\Sitecore CLI\cli-demo
```

```
C:\TUSHAR\Training\FED-Training\Sitecore CLI\cli-demo>dotnet new tool-manifest  
The template "Dotnet local tool manifest file" was created successfully.
```

{ } sitecore.json

{ } dotnet-tools.json ×

C: > Projects > Main-demo > cli-demo > .config > { } dotnet-tools.json > ...

```
1 {  
2   "version": 1,  
3   "isRoot": true,  
4   "tools": {  
5     "sitecore.cli": {  
6       "version": "5.2.113",  
7       "commands": [  
8         "sitecore"  
9       ]  
10    }  
11  }  
12 }
```

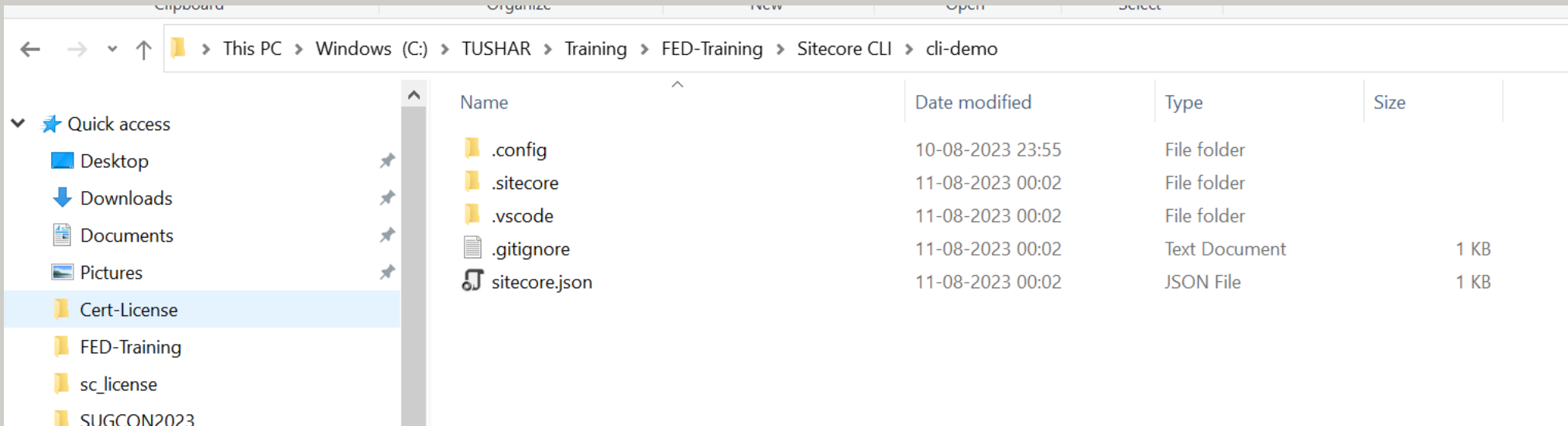
```
C:\TUSHAR\Training\FED-Training\Sitecore CLI\cli-demo>dotnet nuget add source -n Sitecore https://sitecore.myget.org/F/sc-packages/api/v3/index.json
Package source with Name: Sitecore added successfully.
```

```
C:\TUSHAR\Training\FED-Training\Sitecore CLI\cli-demo>dotnet tool install Sitecore.CLI
```

```
You can invoke the tool from this directory using the following commands: 'dotnet tool run sitecore' or 'dotnet sitecore'.
```

```
Tool 'sitecore.cli' (version '5.2.113') was successfully installed. Entry is added to the manifest file C:\TUSHAR\Training\FED-Training\Sitecore CLI\cli-demo\.config\dotnet-tools.json.
```

```
C:\TUSHAR\Training\FED-Training\Sitecore CLI\cli-demo>dotnet sitecore init
Initialization complete.
```



```
sitecore.json
1 {
2   "$schema": "../.sitecore/schemas/RootConfigurationFile.schema.json",
3   "modules": [
4     "./TODO/*.module.json"
5   ],
6   "plugins": [
7     "Sitecore.DevEx.Extensibility.Serialization@5.2.113",
8     "Sitecore.DevEx.Extensibility.Publishing@5.2.113",
9     "Sitecore.DevEx.Extensibility.Indexing@5.2.113",
10    "Sitecore.DevEx.Extensibility.ResourcePackage@5.2.113",
11    "Sitecore.DevEx.Extensibility.Database@5.2.113"
12  ],
13  "serialization": {
14    "defaultMaxRelativeItemPathLength": 100,
15    "defaultModuleRelativeSerializationPath": "serialization",
16    "removeOrphansForRoles": true,
17    "removeOrphansForUsers": true,
18    "continueOnItemFailure": false,
19    "excludedFields": []
20  },
21  "settings": {
22    "telemetryEnabled": true,
23    "cacheAuthenticationToken": true,
24    "versionComparisonEnabled": true,
25    "apiClientTimeoutInMinutes": 5
26  }
27 }
```

# Steps in action contd..



- **Authorize CLI to login to Sitecore**
  - `dotnet Sitecore login --authority https://<Sitecore identity server> --cm https://<Sitecore instance> --allow-write true`

Microsoft Windows [Version 10.0.19045.3208]  
(c) Microsoft Corporation. All rights reserved.

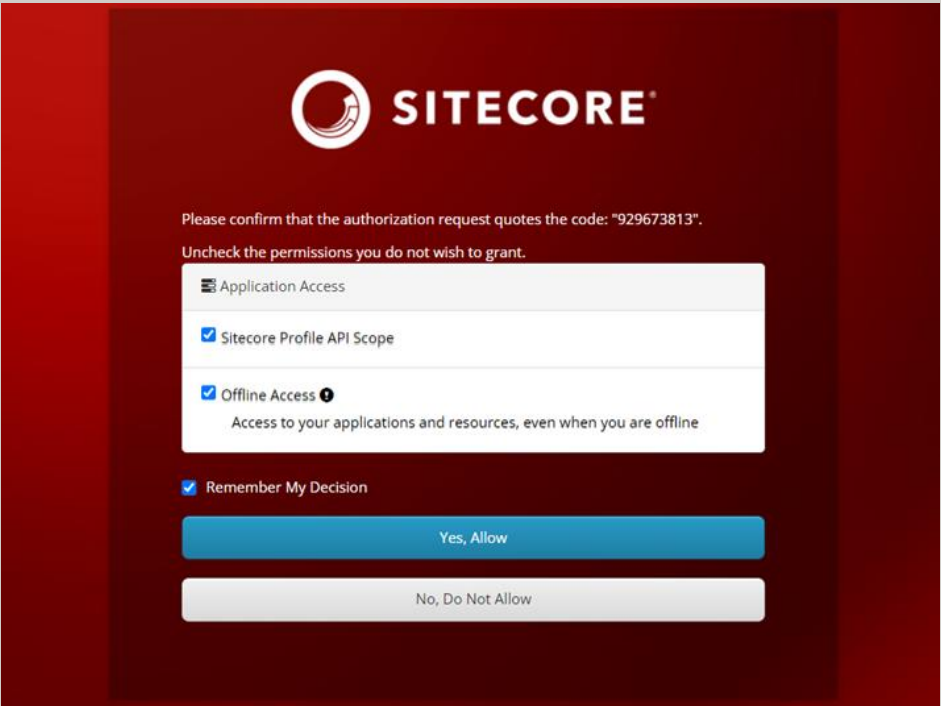
C:\windows\system32>cd C:\TUSHAR\Training\FED-Training\Sitecore CLI\cli-demo

C:\TUSHAR\Training\FED-Training\Sitecore CLI\cli-demo>dotnet sitecore login --authority https://sc103clidemoidentityserver.dev.local --cm https://sc103clidemocm.dev.local --allow-write true

Telemetry  
-----  
Sitecore CLI collects usage data in order to help us improve your experience. The data is collected by Sitecore and not shared with the community. You can opt-out of telemetry by setting telemetryEnabled property to false in sitecore.json file.  
Read more about Sitecore CLI telemetry: <https://doc.sitecore.com/xp/en/developers/103/developer-tools/sitecore-command-line-interface.html>

Logging in to Sitecore. You should see a browser window open shortly.  
[DeviceLogin] User Code : 998502352  
[DeviceLogin] Authentication url : https://sc103clidemoidentityserver.dev.local/device?userCode=998502352  
[DeviceLogin] Authorization pending. Waiting.  
Your login is complete. You can close the browser tab now.  
Login information has been saved.

C:\TUSHAR\Training\FED-Training\Sitecore CLI\cli-demo>\_



# Steps in action contd..

- **Module Creation:**
  - Including sections of Content tree – {Project.Module.json}
  - Helix Principles – Foundation/Feature/Project
- **Start with Serialization operations: Pull/Push**
  - dotnet sitecore ser pull
  - dotnet sitecore ser push

```
{ } sitecore.json  { } dotnet-tools.json  { } Foundation.module.json ●
C: > Projects > CLI-Demo > cli-demo > src > Foundation > { } Foundation.module.json > ...
1  {
2    "namespace": "Foundation.SiteA",
3    "items": {
4      "includes": [
5        {
6          "name": "templates",
7          "path": "/sitecore/templates/Foundation"
8        },
9        {
10         "name": "renderings",
11         "path": "/sitecore/layout/Renderings/Foundation"
12       }
13     ]
14   }
15 }
```

```
{
  "$schema": "../.sitecore/schemas/RootConfigurationFile.schema.json",
  "modules": [
    "./src/**/*.module.json"
  ],
  "plugins": [
    "Sitecore.DevEx.Extensibility.Serialization@5.2.113",
    "Sitecore.DevEx.Extensibility.Publishing@5.2.113",
    "Sitecore.DevEx.Extensibility.Indexing@5.2.113",
    "Sitecore.DevEx.Extensibility.ResourcePackage@5.2.113",
    "Sitecore.DevEx.Extensibility.Database@5.2.113"
  ],
  "serialization": {
    "defaultMaxRelativeItemPathLength": 100,
    "defaultModuleRelativeSerializationPath": "serialization",
    "removeOrphansForRoles": true,
    "removeOrphansForUsers": true,
    "continueOnItemFailure": false,
    "excludedFields": []
  },
  "settings": {
    "telemetryEnabled": true,
    "cacheAuthenticationToken": true,
    "versionComparisonEnabled": true,
    "apiClientTimeoutInMinutes": 5
  }
}
```

```
C:\TUSHAR\Training\FED-Training\Sitecore CLI\cli-demo>dotnet sitecore ser pull
```

```
[master] [A] /sitecore/templates/Feature (8f343079-3cc5-4ef7-bc27-32addb46f45e)
[master] [A] /sitecore/templates/Feature/Banner (2f1434a3-42f1-4d93-8b2a-f7c7e8a5a5c2)
[master] [A] /sitecore/templates/Feature/Banner/Banner Content (abdb1b70-d826-4ed8-acc2-a85cddbba7e)
[master] [A] /sitecore/templates/Feature/Banner/Banner Content/Title (e39f008f-fb49-4988-8d97-8dcfdc9bc8a7)
[master] [A] /sitecore/templates/Feature/Banner/Banner Content/Image (c9816f40-0986-4110-ac61-21181a3e5c2c)
[master] [A] /sitecore/templates/Feature/Banner/Banner Content/Intro (77cc3718-6eccd-4253-949d-5d002efa4bb2)
[master] [A] /sitecore/layout/Renderings/Feature (da61ad50-8fdb-4252-a68f-b4470b1c9fe8)
[master] [A] /sitecore/layout/Renderings/Feature/Banner (e82b6e71-b163-43da-b979-f0ccd376705e)
[master] [A] /sitecore/layout/Renderings/Feature/Footer (eb1b183c-7db9-4f42-8f92-1412b451645e)
[master] [A] /sitecore/layout/Renderings/Feature/Header (f6bf18b8-a316-4e23-bdca-bb8d05ffd943)
[master] [A] /sitecore/templates/Foundation (b26bd035-8d0a-4df3-8f67-2de3c7fdd74a)
[master] [A] /sitecore/templates/Foundation/Site Settings (7f82fe7c-776d-4997-8cb9-a6019dab84a0)
[master] [A] /sitecore/templates/Foundation/Site Settings/Site Settings (1f19706b-8d0d-48b6-8030-8a66522eaf04)
[master] [A] /sitecore/templates/Foundation/Site Settings/Site Settings/Site Name (3793af68-232f-4104-9efc-3d0e71f64c32)
[master] [A] /sitecore/templates/Foundation/Site Settings/Site Settings/Theme (56a519b7-7266-4fc1-bdb1-c7fefe3ddd57)
[master] [A] /sitecore/layout/Renderings/Foundation (180d4942-2b10-4375-bc06-e0d94220a68f)
[master] [A] /sitecore/layout/Renderings/Foundation/Foundation Demo (49058123-59b1-42d8-82e5-886d3f9cc981)
[master] [A] /sitecore/content/Site A (0cafa536-0d13-4000-b639-f6f6aab024ea)
[master] [A] /sitecore/content/Site A/Home (46a184e8-ac51-43d6-a87a-bf0ece44421c)
[master] [A] /sitecore/content/Site A/Home/Services (3867191c-71f0-487e-8bae-53f765bee0a9)
[master] [A] /sitecore/content/Site A/Home/Services/Service One (0ea43720-9a4a-492f-9cd6-29e63985e7a2)
[master] [A] /sitecore/content/Site A/Home/Services/Service Three (25155ca9-5531-4ee9-8637-c7b0b93af061)
[master] [A] /sitecore/content/Site A/Home/Services/Service Two (5df63b80-9246-4b46-97cc-6334331b706c)
[master] [A] /sitecore/templates/Project (825b30b4-b40b-422e-9920-23a1b6bda89c)
[master] [A] /sitecore/templates/Project/Base (eb74a5f7-9c84-41df-9945-e674c8f6d178)
[master] [A] /sitecore/templates/Project/HOME (0f1a5281-797d-4f9a-8ab4-1a917793eaa7)
[master] [A] /sitecore/templates/Project/Service Detail (05a3eaeb-8855-4d2e-9742-539b5c3be452)
[master] [A] /sitecore/templates/Project/Services (46a7e608-de36-4932-8aad-cee56c0c1c42)
[master] [A] /sitecore/templates/Project/Site (08fb5543-1c6f-48e5-a339-e5b255a54d57)
[master] [A] /sitecore/templates/Project/Base/Base Template (c7e94a13-e331-45c5-9e56-3f873ba7ad6e)
[master] [A] /sitecore/templates/Project/Base/Base Template/Content (c0980c07-97c0-4033-b732-814a26a70eaf)
[master] [A] /sitecore/templates/Project/Base/Base Template/Content/Title (6a9d9f22-db89-47c9-92f1-c477ca50dd49)
[master] [A] /sitecore/templates/Project/Base/Base Template/Content/Description (00e42c26-376f-4ce3-9880-6411edd60383)
[master] [A] /sitecore/templates/Project/Base/Base Template/Content/Image (8ed375c9-daaa-405d-8f63-4250cddc976d)
[master] [A] /sitecore/layout/Renderings/Project (1995806f-0a84-42b5-93b0-88f0e2ff872c)
[master] [A] /sitecore/layout/Renderings/Project/Demo (309833df-882d-42df-badc-29ff811e1d63)
```

```
[master] Discovered 36 changes after evaluating 36 total items.
```

```
[master] Applying changes...
```

```
[master] Changes have been applied to serialized items (7 subtrees).
```

```
[roles] Discovered 0 changes after evaluating role list.
```

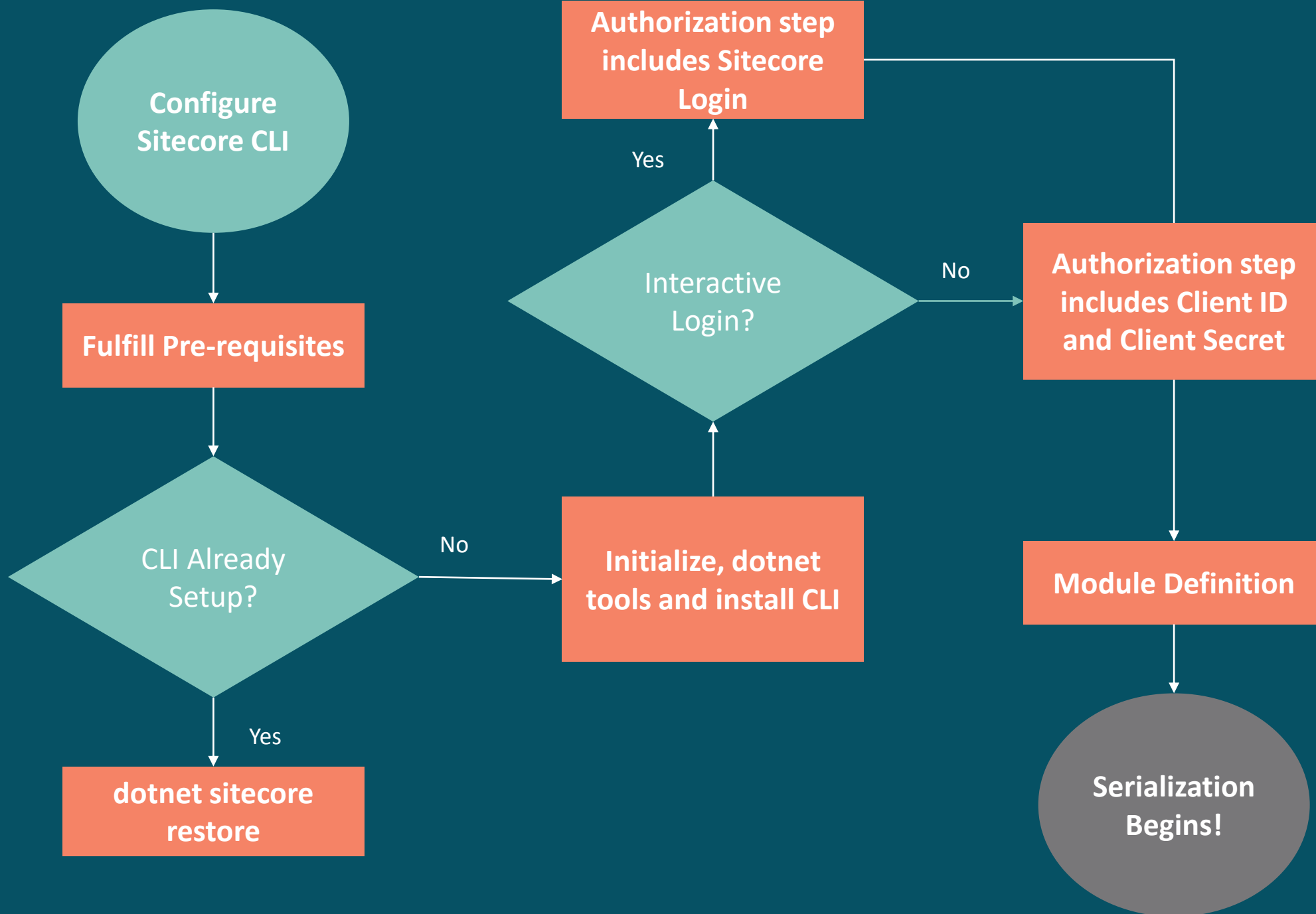
```
[users] Discovered 0 changes after evaluating user list.
```

```
C:\TUSHAR\Training\FED-Training\Sitecore CLI\cli-demo>_
```



Demo

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# Module Creation Conventions

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# Module Creation

Below is the example of module.json file

```
1 {
2   "namespace": "",
3   "references": [],
4   "items": {
5     "includes": [
6       {
7         "name": "content",
8         "path": "/sitecore/content/home",
9         "rules": [
10          {
11            "path": "/products",
12            "scope": "ItemAndDescendants",
13            "allowedPushOperations": "createUpdateAndDelete"
14          },
15          {
16            "path": "**",
17            "scope": "ignored"
18          }
19        ]
20      }
21    ]
22  }
23 }
```

- Path:
- Scope:
  - SingleItem
  - ItemAndChildren
  - ItemAndDescendants
  - DescendantsOnly
  - Ignored
- Allowed Push Operations:
  - CreateOnly
  - CreateAndUpdate
  - CreateUpdateAndDelete

# Allowed Push Operations

<b>Content item in file system?</b>	<b>Content item in instance?</b>	<code>CreateOnly</code>	<code>CreateAndUpdate</code>	<code>CreateUpdateAndDelete</code>
Yes	No	<b>Create item</b>	<b>Create item</b>	<b>Create item</b>
Yes	Yes	Ignore item	<b>Update item</b>	<b>Update item</b>
No	Yes	Ignore item	Ignore item	<b>Delete item</b>



Demo

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Questions?

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**Thx**