

Scaffold Kit



Build powerful scaffolding tools easy and fast

Victor Zhang



Scaffold Kit is a library for implementing scaffolding tools.

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Who should know Scaffold Kit?

- **framework / library authors**
- **software out sourcing teams**
- **development teams that is working on large projects**
- **development teams that is working on several projects**
- **developers who create starter projects**
- **developers who is seeking for the best practices**



Who should know Scaffold Kit?

- **framework / library authors**

Scaffold Kit reduces your unnecessary wasting on non core functionalities.

- **software out sourcing teams**

Scaffold Kit helps you build, keep and convey best practices to your whole team.

- **development teams that is working on large projects**

Scaffold Kit reduces your time on copying files and retaining relationships.

- **development teams that is working on several projects**

Scaffold Kit saves your time on creating new projects by creating with command instead of copying and pasting.

- **developers who create starter projects**

It's more elegant to generate starter by command.

- **developers who is seeking for the best practices**

Using scaffold tools instead of writing boilerplate code manually is always the best practice :)

Who ELSE?



Who should know Scaffold Kit?

- As a developer, if you found that you always need to write redundant boilerplate code and you want to reduce that.
- As a developer, if you found that you always need to copying and pasting code back and forth when creating new projects or creating new files.
- As a team leader, if you found that there are always inconsistent code in the codebase and you want to force the team to write consistent code.
- As a team leader, if you want to establish a code and project structure standard across projects in your team.



What prevents us from building scaffolding tools?

- Creating a scaffold tool takes more time than copying a project and modifying.
- A lot of aspects need to be concerned:
 - rendering files with options
 - overwriting behavior
 - help message displaying and documentation
 - user preferences serialization
 - ...



With Scaffold Kit, these problems are solved.

LESS

- Creating a scaffold tool takes ~~more~~ time than copying a project and modifying.
- A lot of aspects need to be concerned:
 - ~~rendering files with options~~
 - ~~overwriting behavior~~
 - ~~help message displaying and documentation~~
 - ~~user preferences serialization~~
 - ...

These are all taken care by Scaffold Kit.



Let's dive right in.

1. Install Scaffold Kit CLI globally

```
$ npm i scaffold-kit-cli -g
```

2. Create a new project

```
$ scaffold-kit app my-backend --git-init
```

3. Move into our newly created project

```
$ cd my-backend
```



4. Update package.json to be something like this

```
{
  "name": "my-backend",
  "version": "1.0.0",
  "description": "My backend server scaffold tool.",
  "homepage": "http://www.my-backend-server.io",
  "author": {
    "name": "Brian Johnson",
    "email": "bj@gmail.com"
  },
  "repository": "http://www.my-repo.com/my-backend-server.git",
  "license": "MIT",
  ...
}
```

5. Link our newly created scaffold tool into our system

```
$ npm link
```

6. Try out our app

```
$ my-backend
```

My backend 1.0.0

My backend server scaffold tool.

Usage

```
my-backend <command> [args ...] [options ...]
```

Commands

My backend doesn't have any commands yet.



7. Checkout our tutorial material

```
$ git clone https://github.com/zhangkaiyulw/scaffold-kit-presentation-resource.git
```

8. Create our first command

```
$ scaffold-kit command new --copy-templates path_to_material
```

9. Update command description (lib/commands/new/index.js)

```
description: 'Create a new backend project.',  
usage: 'my-backend new path_to_project [options...]',
```



10. Add option definitions

```
options: [  
  {  
    name: 'port',  
    type: Number,  
    description: 'on which port the server listens to.',  
    defaultValue: 3000,  
    saveToPreference: false  
  }  
],
```



11. Add a before hook for parsing project name

```
beforeExecution: ({ wd, args, options }) => {  
  if (!args[0]) return;  
  const newWd = path.join(wd, args[0]);  
  const name = path.basename(newWd);  
  return { wd: newWd, options: { ...options, name } };  
},
```

12. Update template (lib/commands/new/templates/_package.json)

```
"name": "<%- name %>",
```

13. Update template (lib/commands/new/templates/_server.js)

```
app.listen(<%- port %>);  
console.log('listening on port <%- port %>...');
```

14. Try out 'new' command

```
$ my-backend new demo-backend --port=4100
  create package.json
  create router.js
  create server.js
$ cd demo-backend
$ npm install
added 47 packages from 27 contributors and audited 69 packages
in 6.319s
found 0 vulnerabilities
$ npm start
> demo-backend@1.0.0 start /Users/1/Developer/demo-backend
> node server.js

listening on port 4100...
```

```
$ open http://localhost:4100
```

Congratulations!
We've created our first scaffold tool.



With this skill, we can create starter project more gracefully.

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With this, we can force our projects to have the same structure.



A professional scaffold tool,
focus **NOT ONLY** on project generating,
BUT it's **ALSO** a style of coding,
we delegate boilerplate code writing to scaffold tools,
and having scaffold tools writing code for us.



Let's do more with it.



1. Create a new command named 'route'

```
$ scaffold-kit command route
```

2. Replace route command's content with route.js from the tutorial material

3. Create a new command named 'destroy'

```
$ scaffold-kit command route
```



Try It Out

```
$ my-backend route --url=abc --method=get  
  update router.js  
$ my-backend route --url=abc --method=get  
  up-to-date router.js  
$ my-backend destroy route --url=abc --method=post  
  unchanged router.js  
$ my-backend destroy route --url=abc --method=get  
  rollback router.js
```

Summary

- Scaffold Kit has actually much more powerful features.
- As a introduction, I can't introduce more.
- As you use it, you will dive deeper into the rest powerful features.

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