Content testing and deployment done the right way

By Shy Ruparel

Content model changes done the right way part 2.

By Shy Ruparel

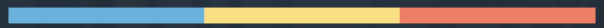
contentful

Shy Ruparel

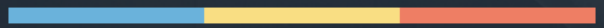
Developer Evangelist

Twitter: @ShyRuparel

Building Software



Nobody gets it right the first time



When you can’t have perfection, the next best thing is change.

What could go wrong?

In a past meetup we talked about the Contentful Migration CLI 🚚

TL;DR

What you can do

- Create content type
- Delete content type
- Edit content type
- Create/edit/delete fields
- Change field ID

All in Javascript

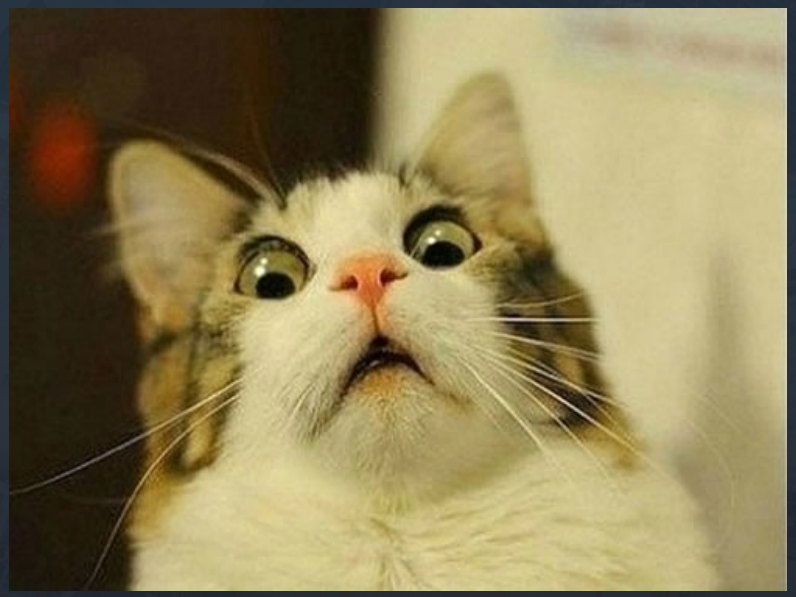
```
contentful-migration
    --space-id $YOUR_SPACE_ID
    --access-token $CONTENTFUL_MANAGEMENT_ACCESS_TOKEN
    migration-demo.js
```

Advantages

- Repeatable
- Dry-runs
- Can be kept in version control
- Sanity checks
- Use CI to apply.

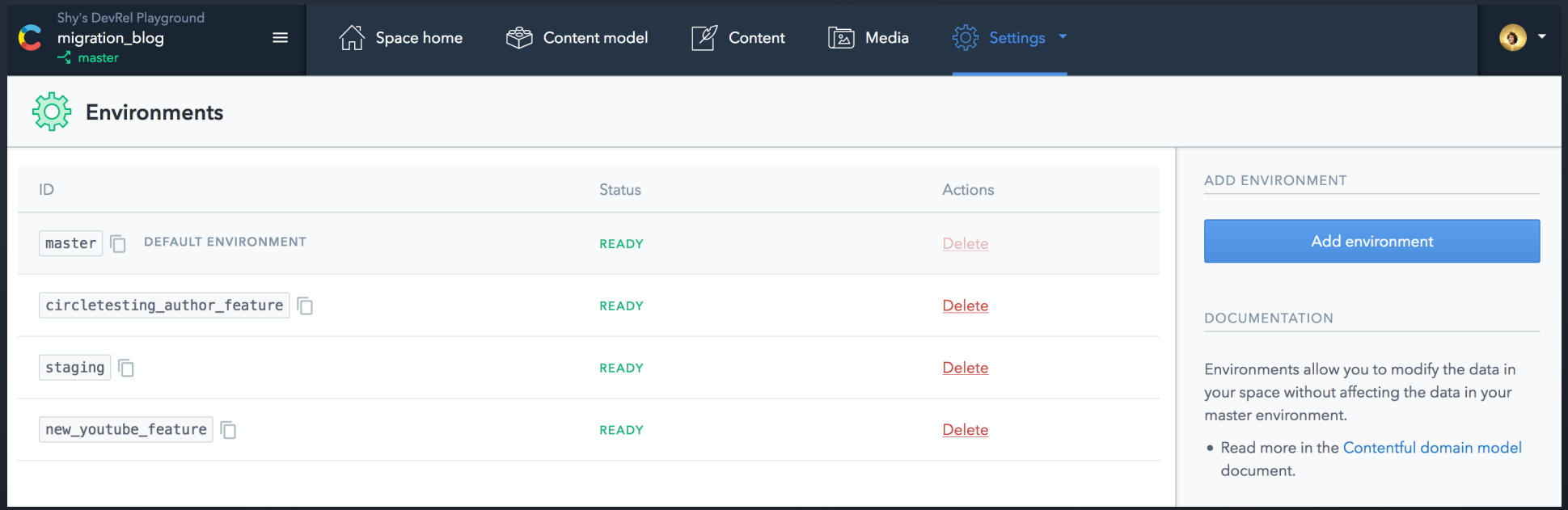
That's nice

But what if I want to discard, test or preview a migration?



Space Environments 🚀

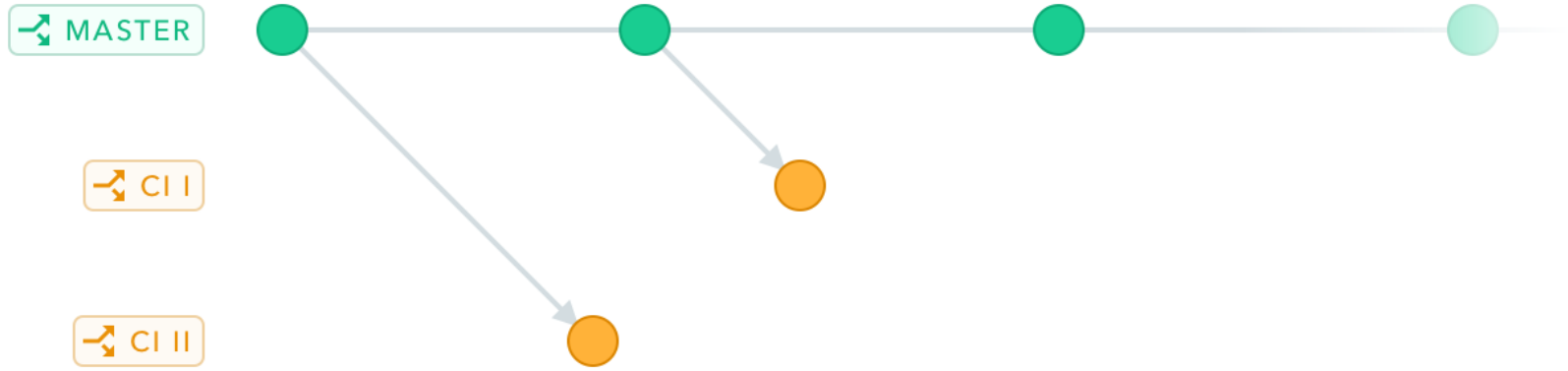
Space environments allow you to create multiple versions of the space, and change them in isolation.



Common uses for space environments

- Local development
- Staging / QA
- Continuous integration

Let's talk about Continuous Integration



A simple Continuous Integration pipeline:

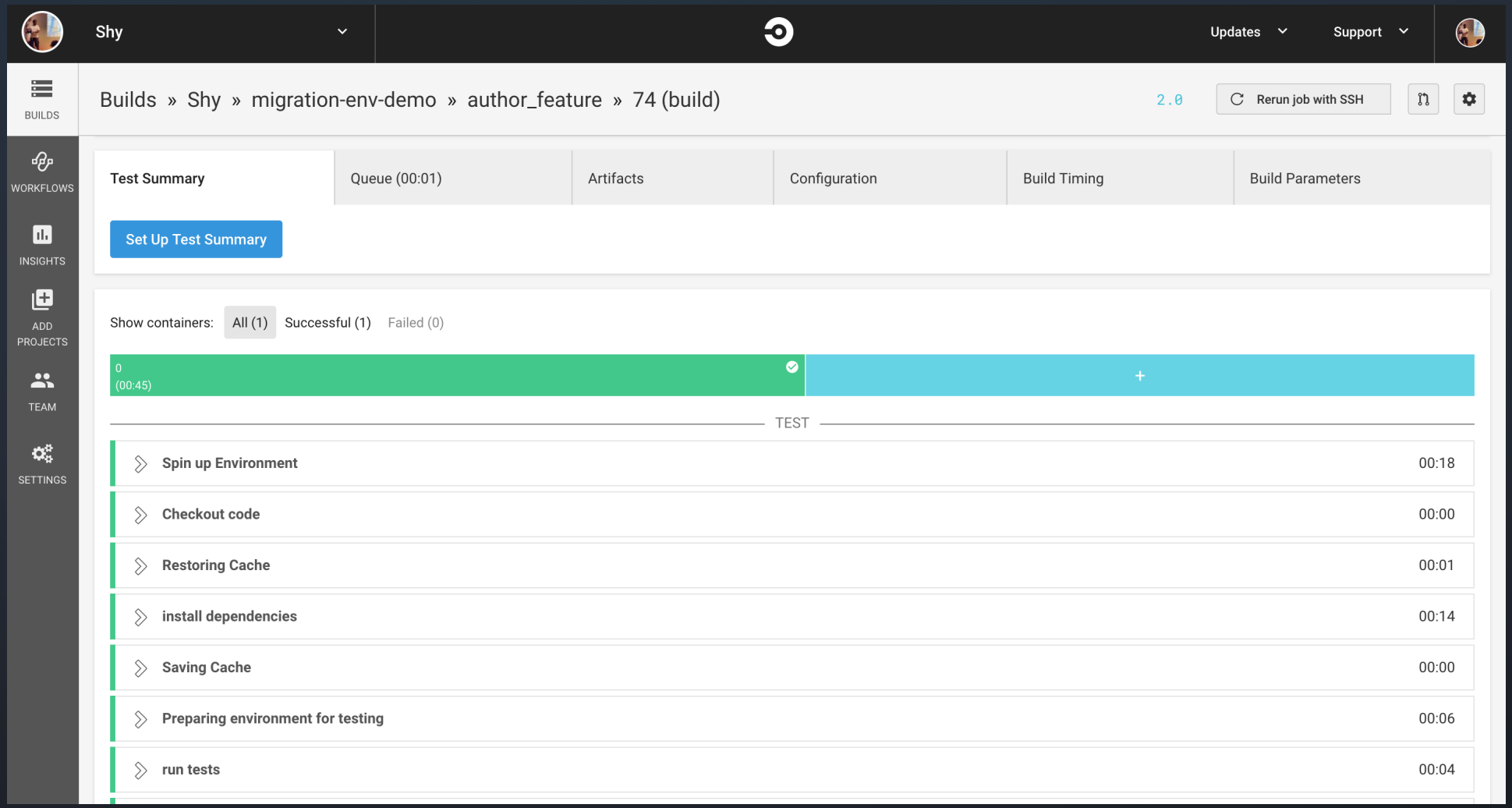
- Build
- Test
- Deploy

Integrating Migrations into CI Pipeline:

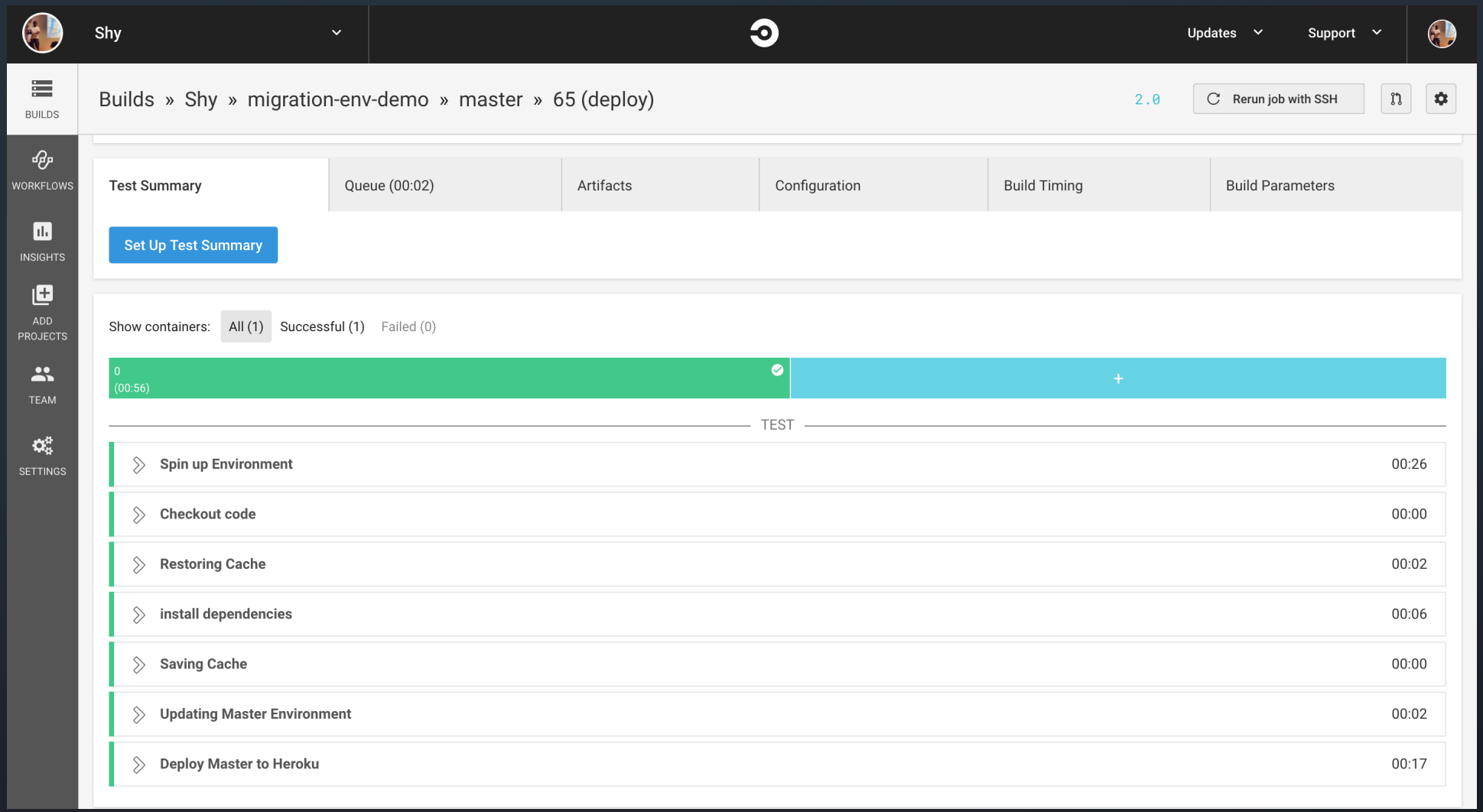
- Build
  - *Spin up a copy of the master space*
  - *Migrate copy*
- Test
- Deploy
  - *Migrate master space*


circleci

Build & Test


Shy
Updates
Support
BUILDS
Builds » Shy » migration-env-demo » author_feature » 74 (build)
2.0
Rerun job with SSH
WORKFLOWS
INSIGHTS
ADD PROJECTS
TEAM
SETTINGS
Test Summary
Queue (00:01)
Artifacts
Configuration
Build Timing
Build Parameters
Set Up Test Summary
Show containers:
All (1)
Successful (1)
Failed (0)
0
(00:45)
TEST
Spin up Environment
00:18
Checkout code
00:00
Restoring Cache
00:01
install dependencies
00:14
Saving Cache
00:00
Preparing environment for testing
00:06
run tests
00:04

Deploy


Shy
Updates
Support
BUILDS
WORKFLOWS
INSIGHTS
ADD PROJECTS
TEAM
SETTINGS
Builds » Shy » migration-env-demo » master » 65 (deploy)
2.0
Rerun job with SSH
Test Summary
Queue (00:02)
Artifacts
Configuration
Build Timing
Build Parameters
Set Up Test Summary
Show containers:
All (1)
Successful (1)
Failed (0)
0
(00:56)
TEST
Spin up Environment 00:26
Checkout code 00:00
Restoring Cache 00:02
install dependencies 00:06
Saving Cache 00:00
Updating Master Environment 00:02
Deploy Master to Heroku 00:17

CircleCI config.yml - Ready Migrations

```
- run:
      name: Preparing environment for testing
      command: |
        . venv/bin/activate
        python migration_prep.py "circletesting_$CIRCLE_BRANCH"
        node_modules/contentful-migration/bin/contentful-migration
                --access-token $MANGEMENT_API_KEY --space-id $SPACE_I
                --environment-id "circletesting_$CIRCLE_BRANCH"
                        --yes
                migration-tests/migration_helper.js
```

migration_prep.py

```
import contentful_management
import os, sys
from dotenv import load_dotenv

SPACE_ID = os.getenv("SPACE_ID")
MANGEMENT_API_KEY = os.getenv("MANGEMENT_API_KEY")
TESTING_ENV = sys.argv[1]

client = contentful_management.Client(MANGEMENT_API_KEY)
environment = client.environments(SPACE_ID)
                        .create(TESTING_ENV, {"name": TESTING_ENV})
```

migration_helper.js

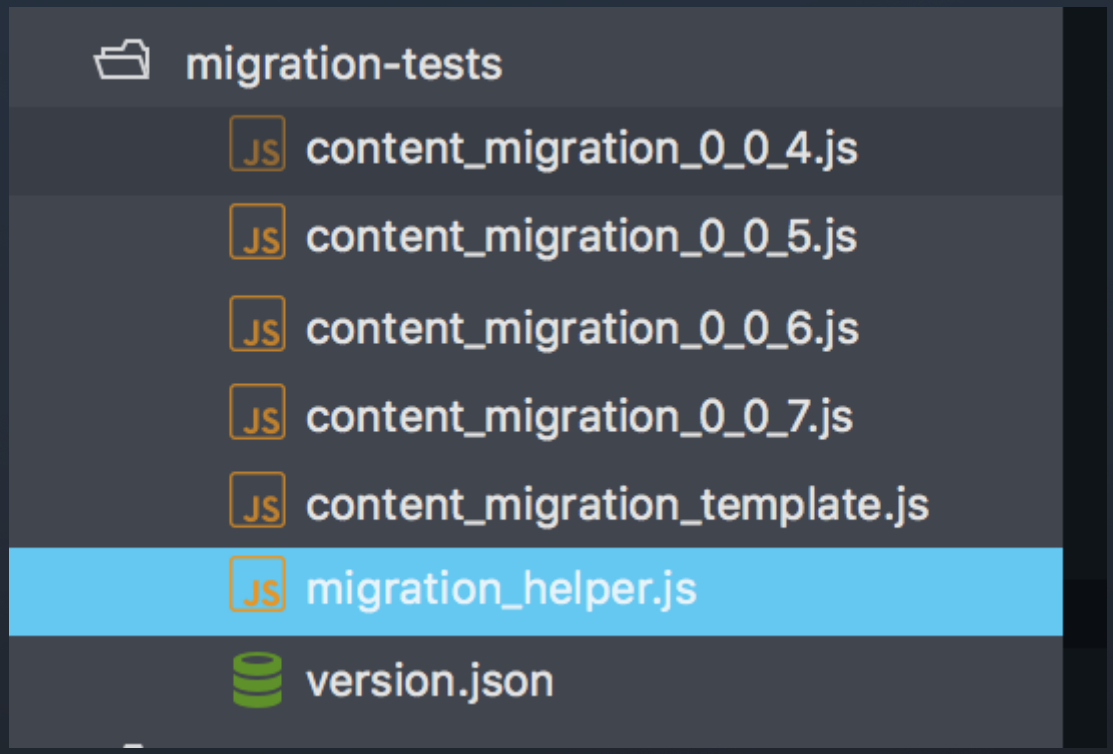
```
module.exports = function(migration) {
        var parsedJSON = require("./version.json");
    const expectedVersion = parsedJSON.expectedVersion;
    const upgradeVersion = parsedJSON.upgradeVersion;

    migrationString =
            "./content_migration_" +
            upgradeVersion.split(".").join("_") +
            ".js";
        var migrationCode = require(migrationString);

        if (migrationCode.validateVersion(expectedVersion, upgradeVer
            migrationCode.runMigration(migration);
        } else {
            console.log("Migration Version Mismatch");
            process.exit(1);
        }

}
```

Migration Files



content_migration_0_0_7.js pt 1

```
const migration_expected_version = "0.0.6";
const migration_upgrade_version = "0.0.7";

function validateVersion(expected_version, upgrade_version) {
    if (upgrade_version == migration_upgrade_version) {
        if (expected_version == migration_expected_version) {
            return true;
        }
    }
    return false;
}
```

content_migration_0_0_7.js pt 2

```
function runMigration(migration) {
    const post = migration.editContentType("post");
    post
        .createField("author")
        .name("author")
        .type("Symbol")
        .required(false);
    return;
}

module.exports = {
    runMigration,
    validateVersion
};
```

CircleCI config.yml - Run Tests

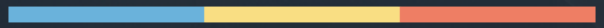
```
- run:
      name: run tests
      command: |
        . venv/bin/activate
        pytest --environment-id="circletesting_$CIRCLE_BRANCH"
```

Demo

Integrate evolving your content model into your delivery pipeline

Check out the example:

github.com/contentful-labs/continous-delivery-environments-example



contentful

Shy Ruparel

Twitter: @ShyRuparel

Email: shy@contentful.com