

# Challenges

## Specification

`ctfcli` provides a **challenge specification** (`challenge.yml`) that outlines the major details of a challenge.

Every challenge generated by or processed by `ctfcli` should have a `challenge.yml` file.

The specification format has already been tested and used with CTFd in production events but comments, suggestions, and PRs are welcome on the format of `challenge.yml`.

## Working with Challenges

### 1. Add challenges

Events are made up of challenges. Challenges can be made from a subdirectory or pulled from another repository. Remote challenges are pulled into the event repo and a reference is kept in the `.ctf/config` file.

```
> ctf challenge add [REPO | FOLDER]
```

```
> ctf challenge add crypto/stuff
```

```
> ctf challenge add https://github.com/challenge.git
challenge
Cloning into 'challenge'...
remote: Enumerating objects: 624, done.
remote: Counting objects: 100% (624/624), done.
```

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#### Working with Challenges

1. Add challenges
2. Install challenges
3. Update challenges

```
remote: Compressing objects: 100% (540/540), done.  
remote: Total 624 (delta 109), reused 335 (delta 45), pack-reused 0  
Receiving objects: 100% (624/624), 6.49 MiB | 21.31 MiB/s, done.  
Resolving deltas: 100% (109/109), done.
```

## 2. Install challenges

Installing a challenge will automatically create the challenge in your CTFd instance using the API.

```
› ctf challenge install [challenge.yml | DIRECTORY]
```

```
› ctf challenge install buffer_overflow  
Found buffer_overflow/challenge.yml  
Loaded buffer_overflow  
Installing buffer_overflow  
Success!
```

## 3. Update challenges

Syncing a challenge will automatically update the challenge in your CTFd instance using the API. Any changes made in the `challenge.yml` file will be reflected in your instance.

```
› ctf challenge sync [challenge.yml | DIRECTORY]
```

```
› ctf challenge sync buffer_overflow  
Found buffer_overflow/challenge.yml  
Loaded buffer_overflow  
Syncing buffer_overflow  
Success!
```

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