# Github Actions: an overview

https://rtfm.co.ua/en/github-github-actions-overview-and-argocd-deployment-example/

In the Actions, build flow is the following (see [Introduction to GitHub Actions](https://docs.github.com/en/actions/learn-github-actions/introduction-to-github-actions)):

1. an event (for example, a pull-request or a commit to a repository, see the full list [here>>>](https://docs.github.com/en/actions/reference/events-that-trigger-workflows)) triggers a workflow, which contains jobs
2. a job contains a list of steps, and every step consist of one or more actions
3. actions are running on a runner, and multiply actions of a  workflow can be running simultaneously

The main components are:

* runner: a server running on Github Cloud or self-hosted, which will execute a job
* workflow: a procedure described in YAML, that includes one or more job, and is triggered by an event
* jobs: a set of steps that are running on the same runner. If a workflow has multiple jobs, by default they will be started in parallel, but also can be configured with dependencies from each other
* steps: зa task to execute a common command or actions. As steps of the same job are running on the same runner, they can share data with each other.
* actions: main “execution blocks” – can be a set of already prepared tasks, or run simple commands

## A workflow file structure

In short, let’s see how a workflow file is built:

* name: a workflow name
* on: an event(s), that will trigger this workflow
* jobs: a list of tasks of this workflow
  + <JOB\_NAME>
    - runs-on: a runner, which will execute job(s)
    - steps: tasks in this job to be executed with uses or run
      * uses: an action to execute
      * run: a command to execute

## Getting started: Creating workflow file

1. Go to the Github WebUI, switch to the Actions tab

2. Create a New workflow

3. Choose a workflow template e.g. Simple workflow

4. Paste this code:

name: actions-test

on: [push]

jobs:

print-hello:

runs-on: ubuntu-latest

steps:

- run: echo "Hello, world"

5. Start commit

6. Commit new file to either master or new branch

7. Goto Actions tab

8. Select the newly created workflow and test the flow.