# Deploy Website to S3/CloudFront with GitHub Actions

GitHub Actions are workflows that allow you to automate tasks from within a GitHub repository. They are written in YAML format and describe the tasks to be performed on the repository

GitHub have provided workflows to perform many actions on the contents of your repository and there is also a marketplace where other users have uploaded their workflows that perform actions not provided by GitHub.

S3 Deploy is such a workflow.

The YAML file is made up of several sections:

* Name: - Shows in the action list in GitHub
* On: - Trigger for the action
  + GitHub Events
    - Push – when a commit is pushed to the repository
    - Pull request
  + Scheduled Events
  + Manually Triggered
* Jobs: - task to be performed
  + Runs-on: underlying OS
  + Env: environment variables
  + Uses: pre-existing actions
  + With: variables for the actions

For a detailed explanation, see <https://www.youtube.com/watch?v=TLB5MY9BBa4&t=2764s>

## Create a GitHub Action

In your GitHub repository

* Open the Actions tab



* Click New Workflow

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* Click on ‘set up a workflow yourself

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* Rename the workflow YAML file if required

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* Search Marketplace for ‘S3 Deploy’

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* Click on S3 Deploy by Reggionick

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* Click on View full Marketplace listing

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* Copy the Example YAML code and paste it into your empty workflow

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* Delete the Install dependences and build sections (not required for a simple website)

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* Change the name: if required
* Change the repository folder name to deploy if required
* Commit changes to save the YAML file

## Configure Secrets

Secrets allow you to manage reusable configuration data. Secrets are encrypted and are used for sensitive data.

To run this workflow, 5 secrets are required:

* AWS\_ACCESS\_KEY\_ID – public key for an AWS user with sufficient permissions
  + see the S3 Deploy marketplace page for a minimum IAM policy
* AWS\_SECRET\_ACCESS\_KEY – secret key for the user
* S3\_BUCKET – name field from your S3 bucket (NOT arn)
* S3\_BUCKET\_REGION – region code for the S3 bucket – e.g. us-east-1
* CLOUDFRONT\_DISTRIBUTION\_ID – id field from your CloudFront distribution (NOT arn).

To set up a secret:

* Open the Settings tab



* Select Security/Secrets and variables/Actions

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* Under Repository secrets, click New repository secret

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* Enter the secret name in caps and value and Add secret to save

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Now the contents of the specified repository folder will be deployed to S3 and the CloudFront distribution invalidated whenever you push a commit to the GitHub repository