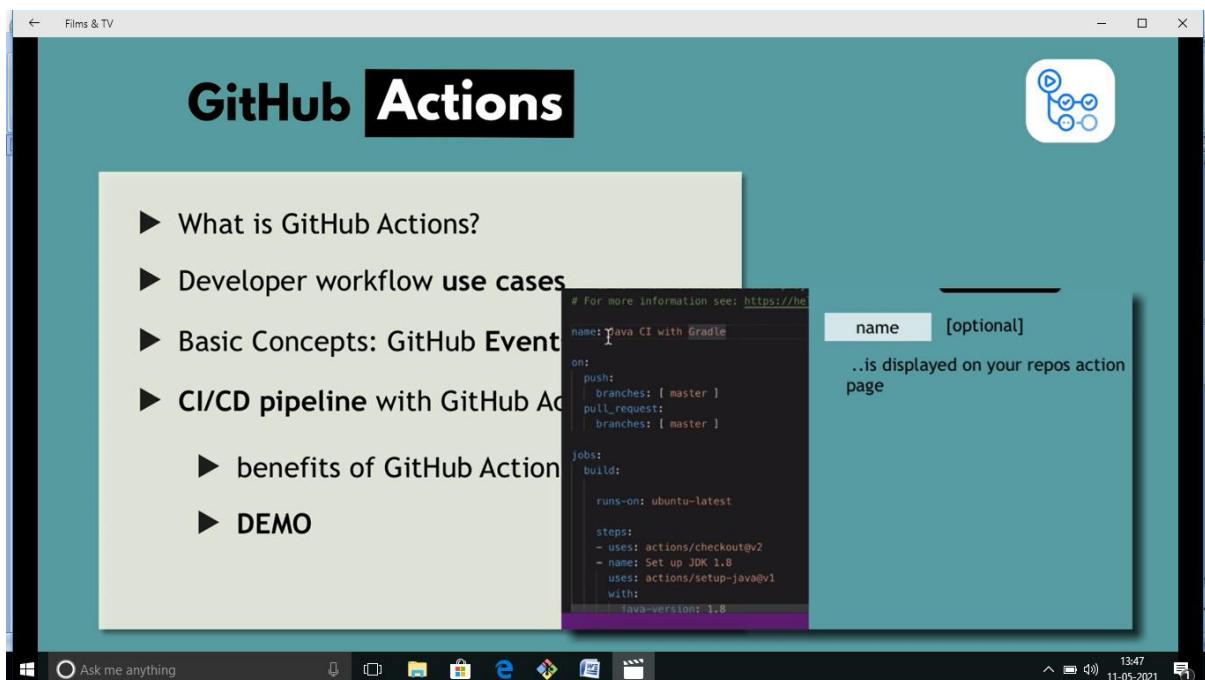
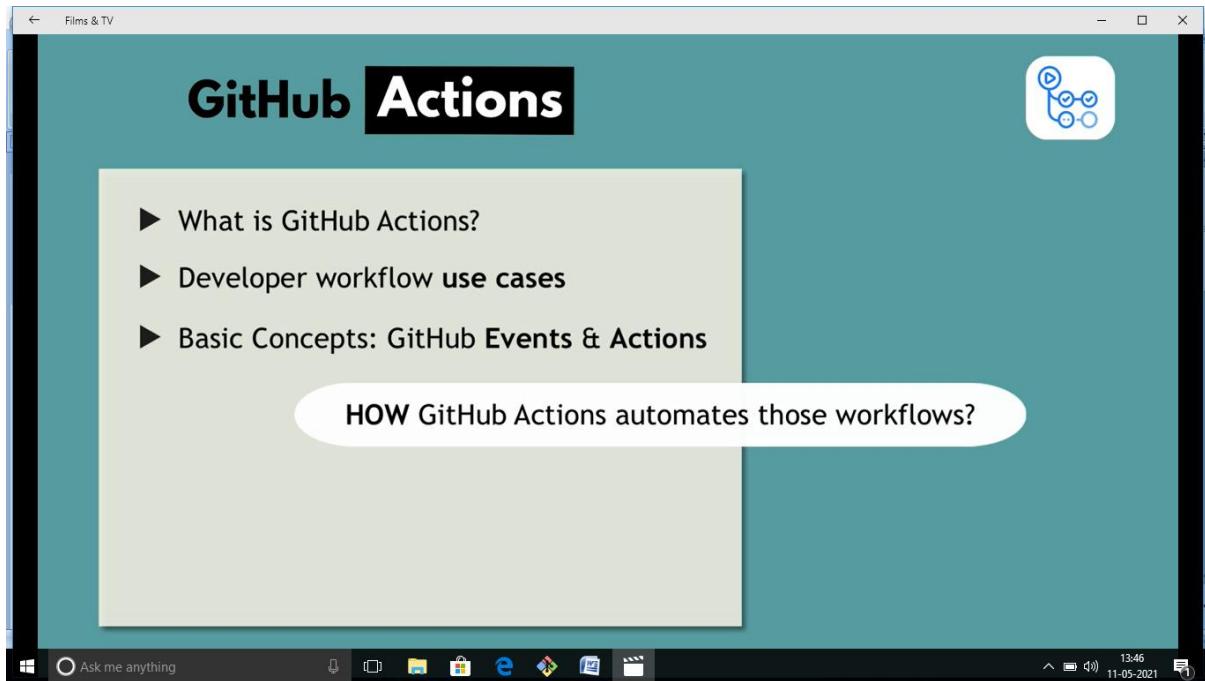
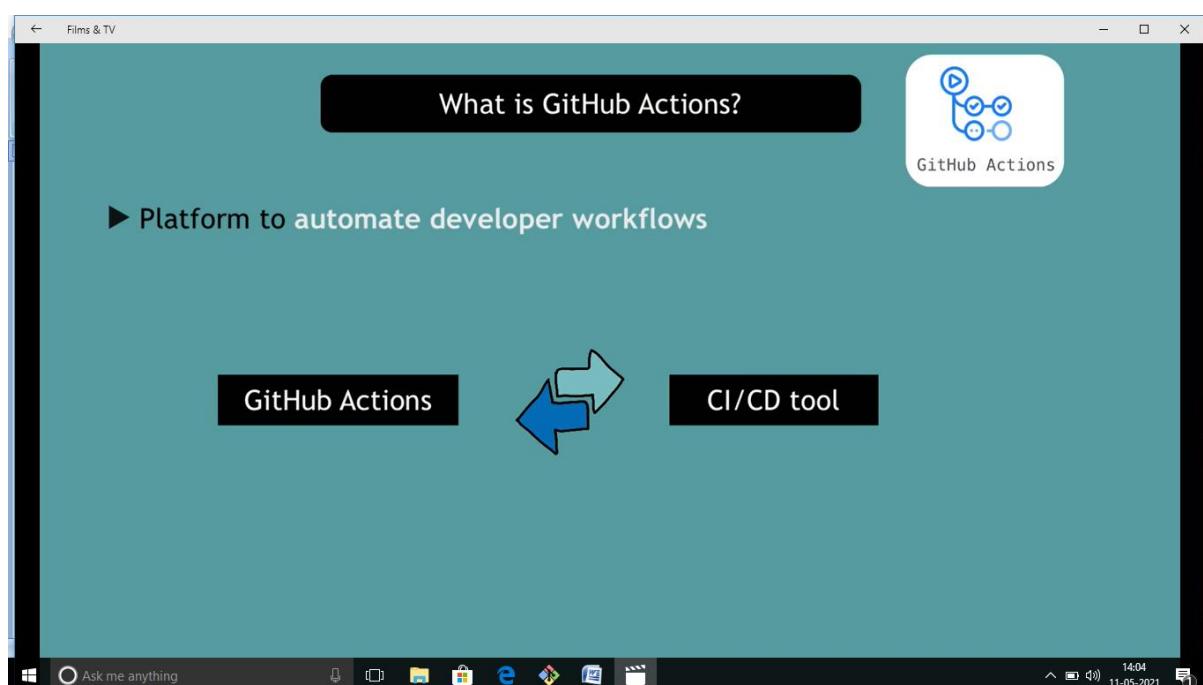
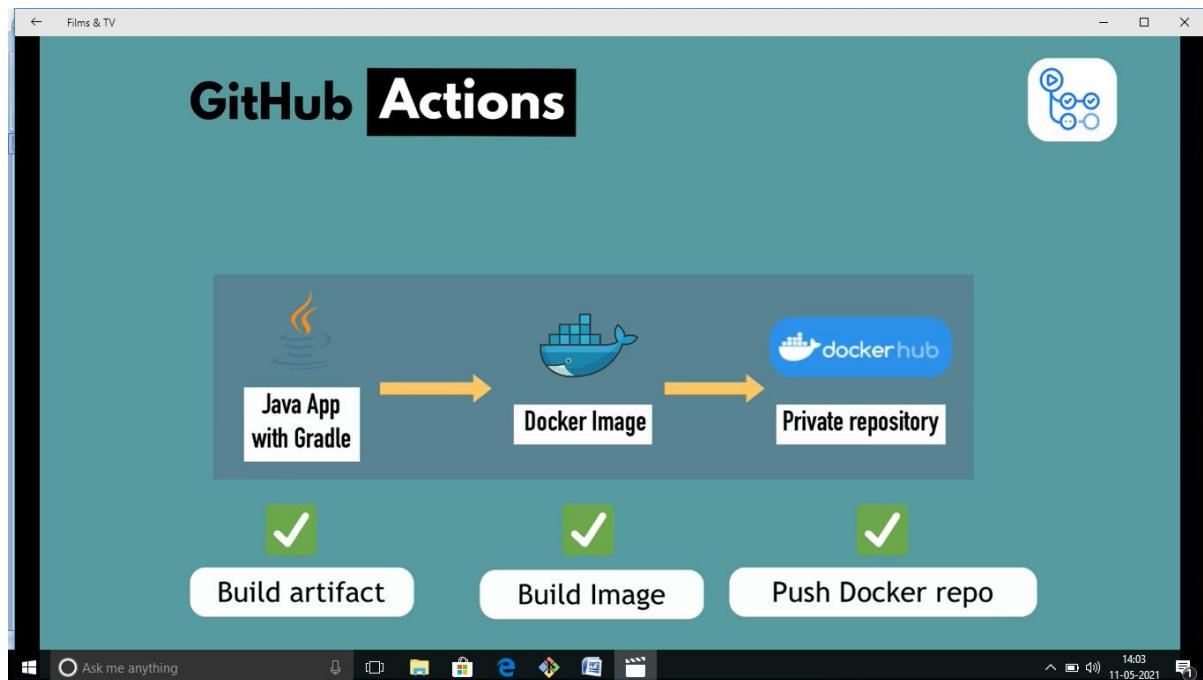
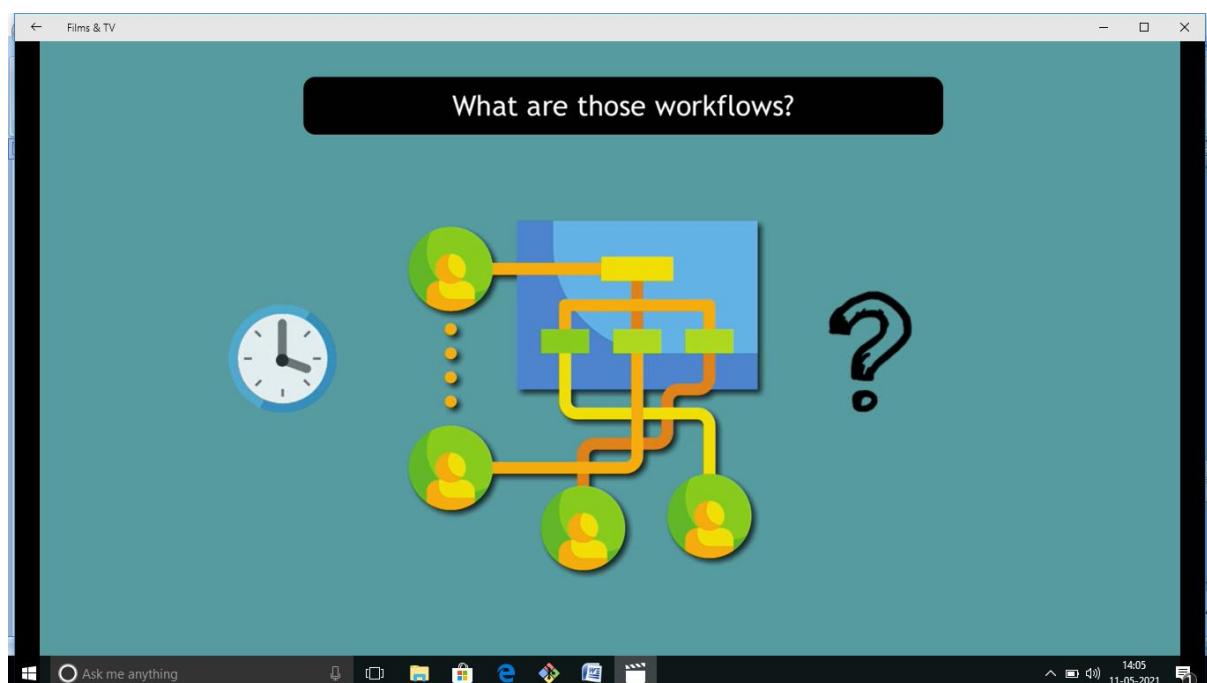
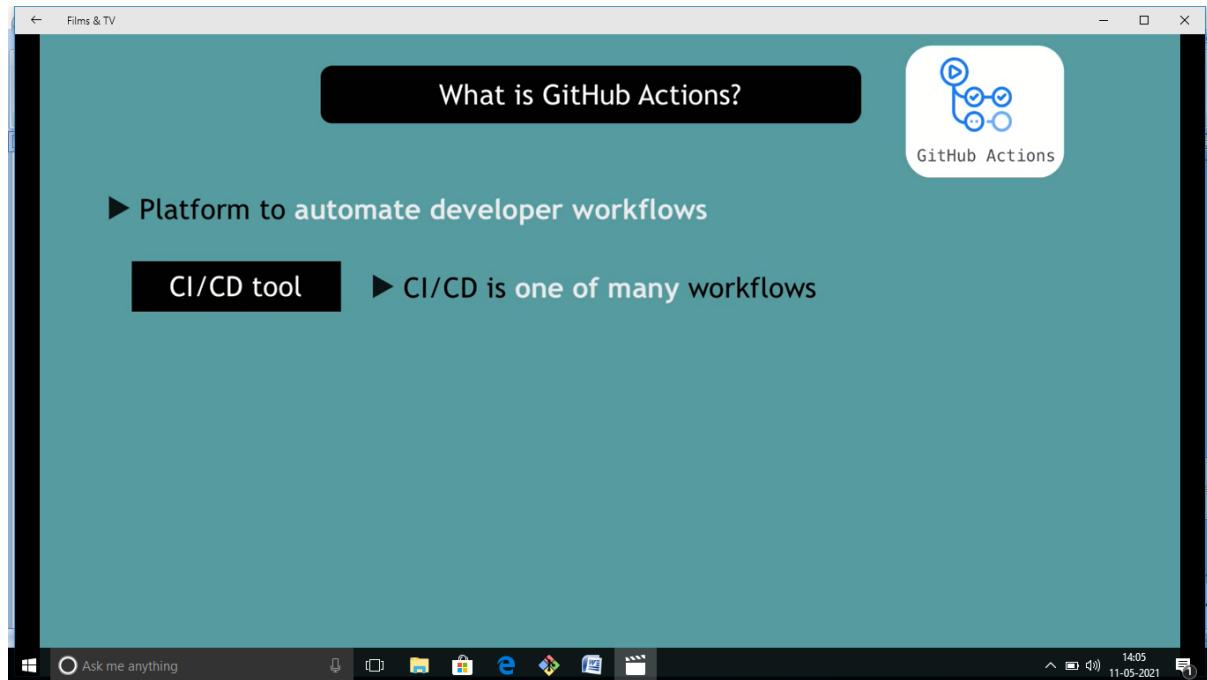
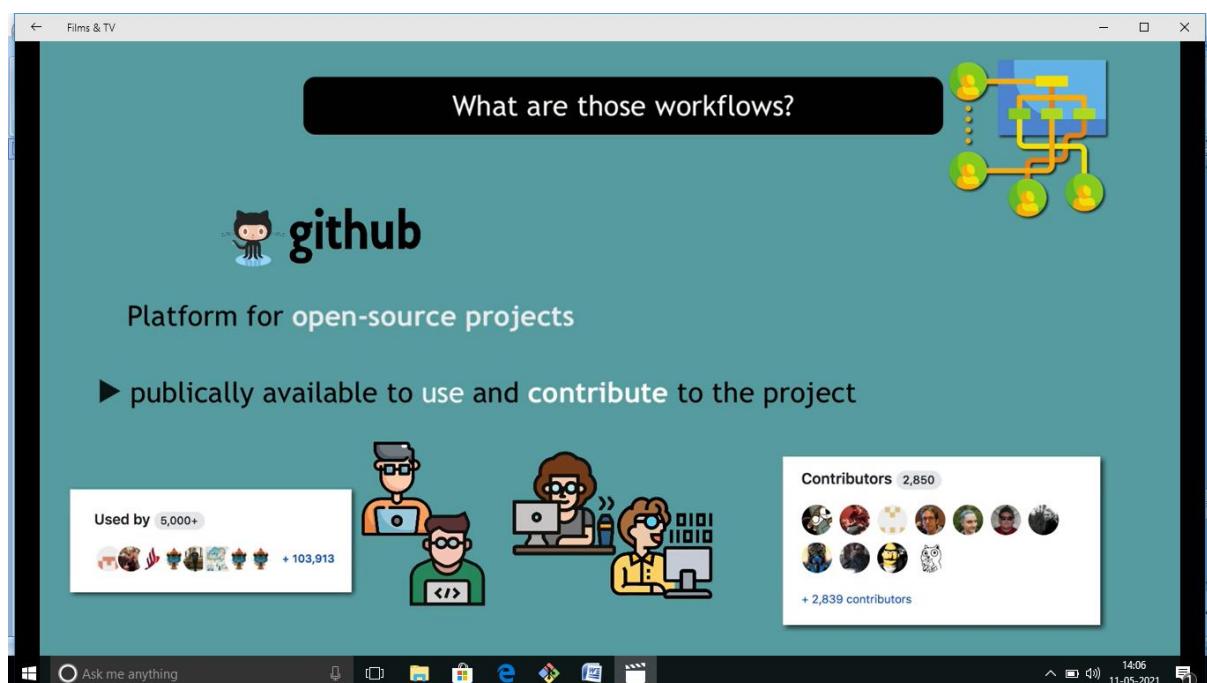
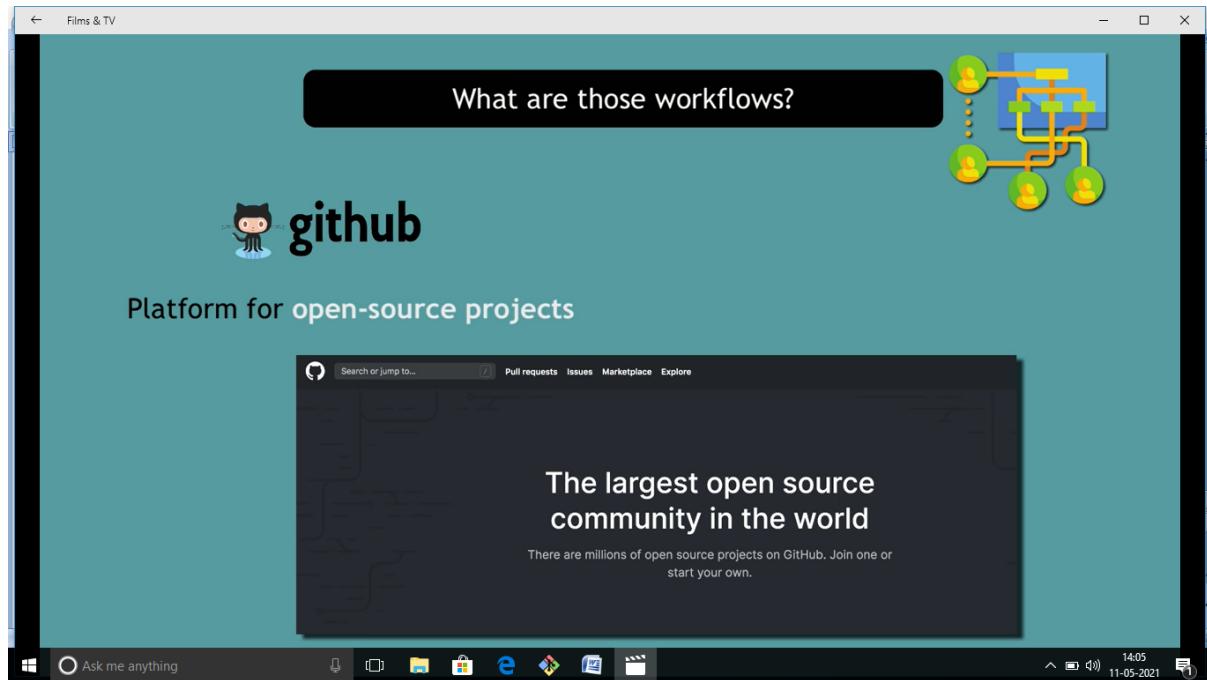


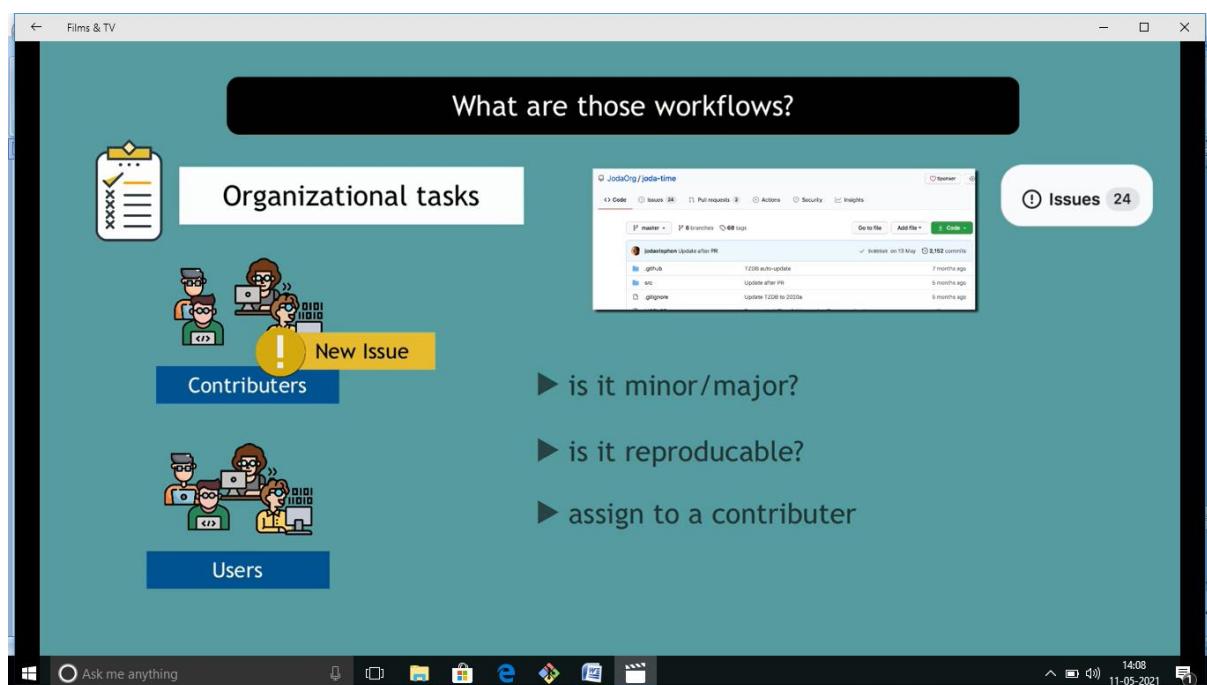
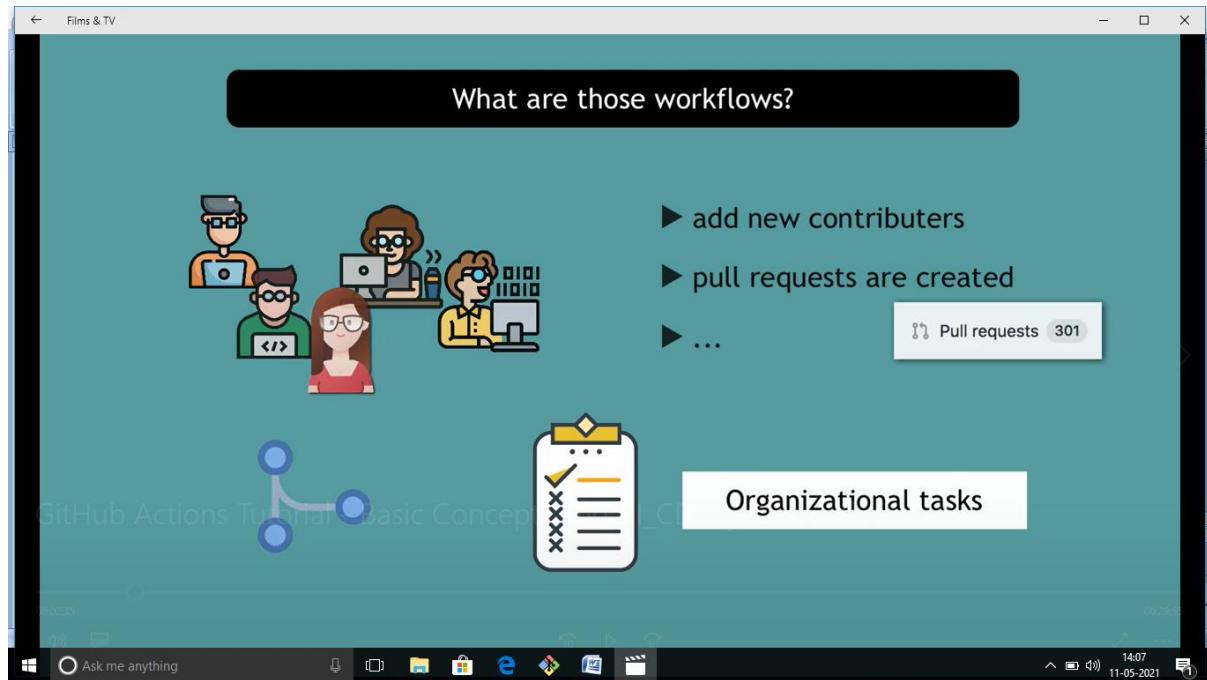
GITHUB ACTIONS

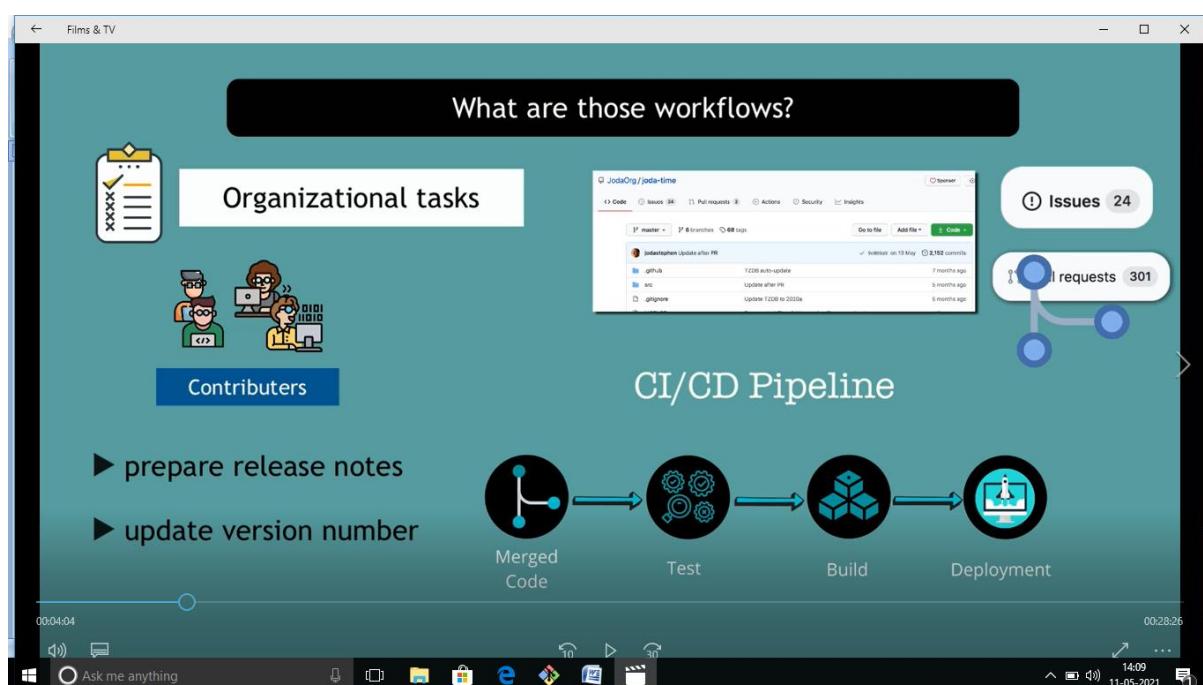
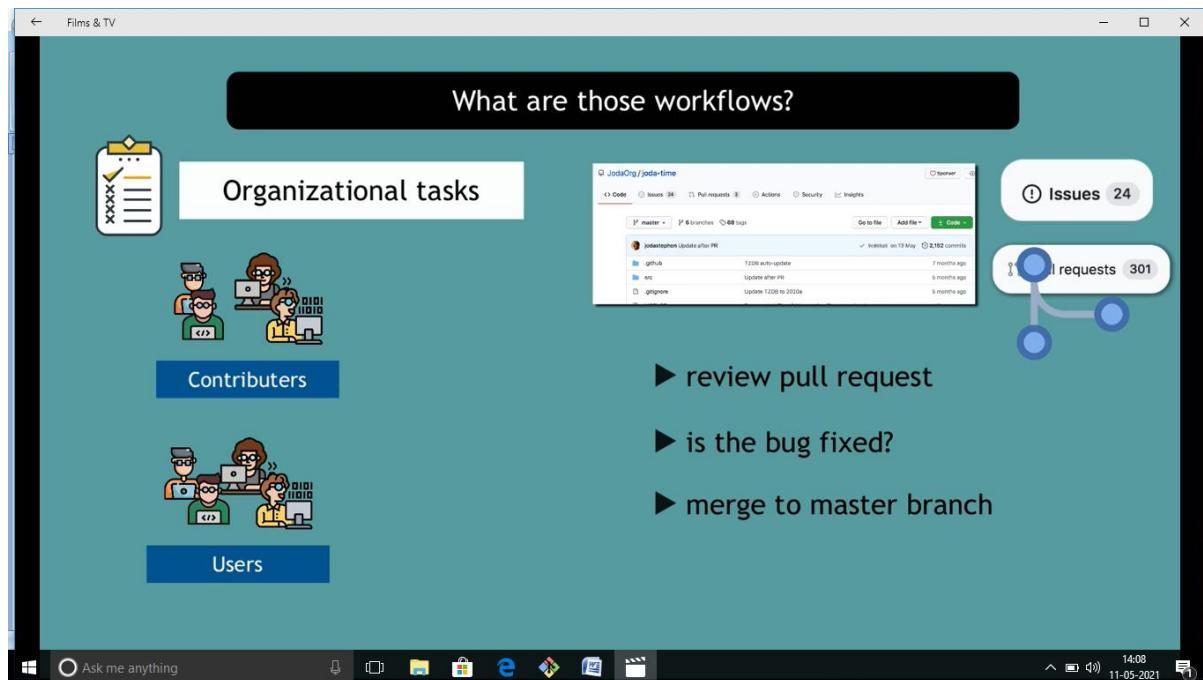


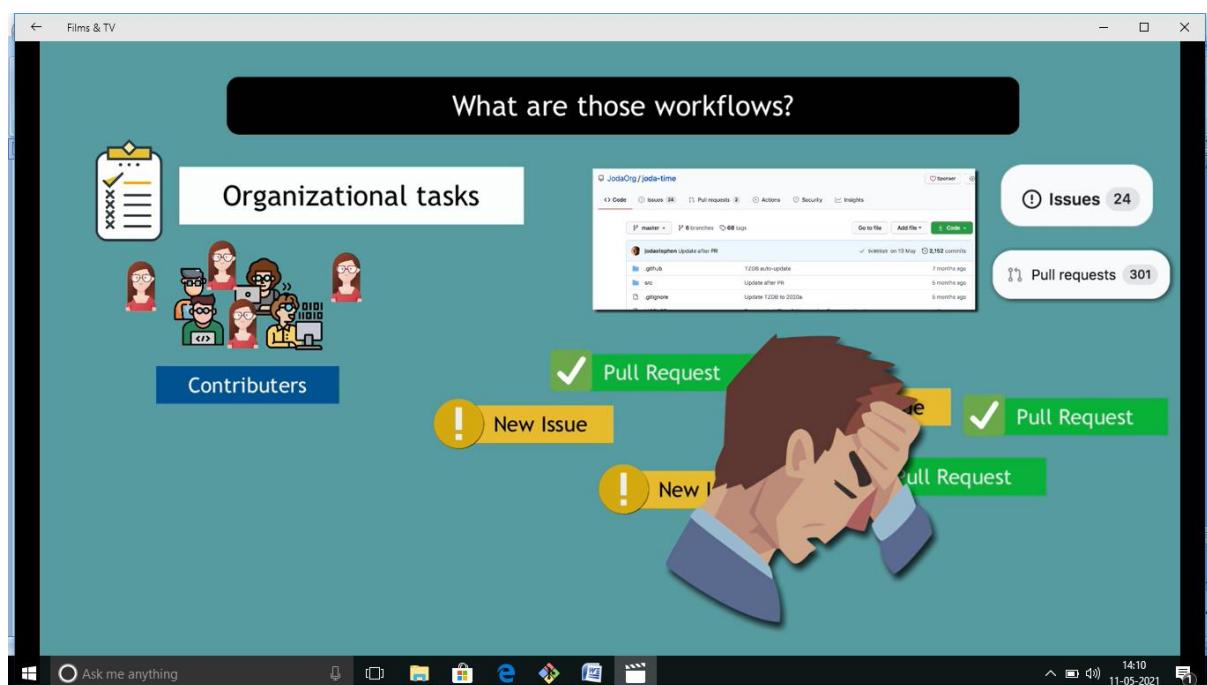
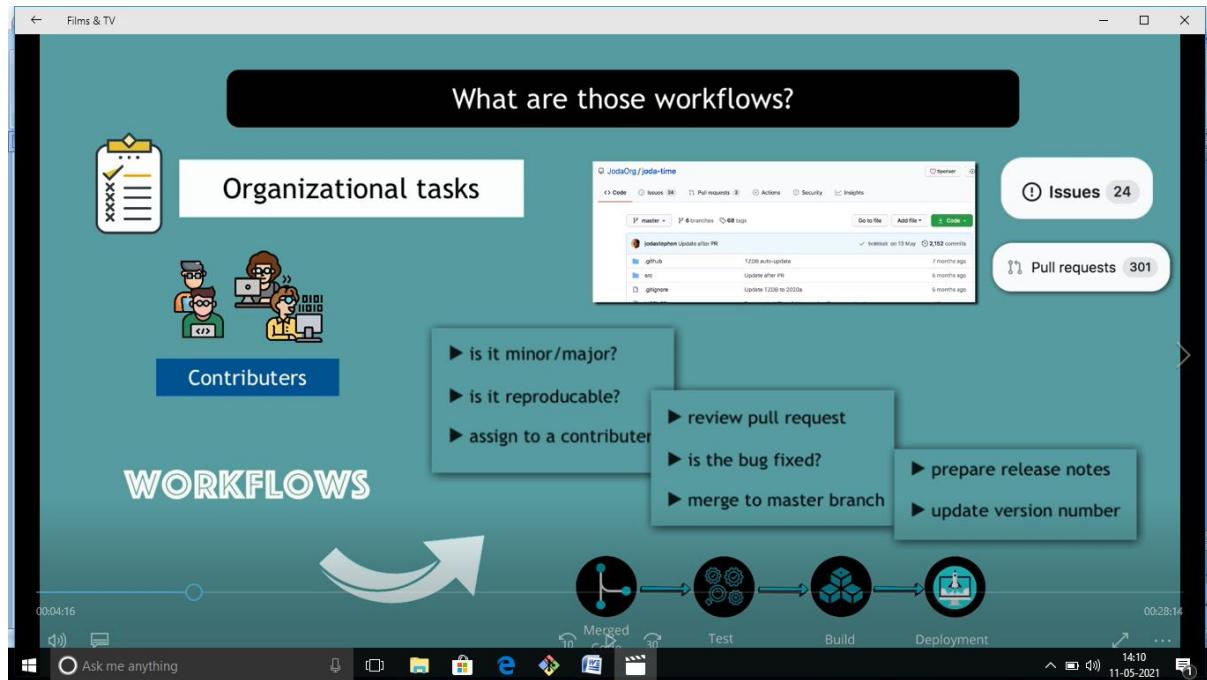












Films & TV

What are those workflows?

Organizational tasks



A screenshot of a Windows desktop showing a presentation slide. The slide has a teal background and features several sections: 'Organizational tasks' with an icon of a checklist, a GitHub repository screenshot showing commit history for 'joda-time', and a section titled 'Automate as much as possible!' featuring an icon of a gear connected to a play button and the text 'GitHub Actions'.

Automate as much as possible!

GitHub Actions

14:11 11-05-2021

Films & TV

How GitHub Actions automate these workflows?

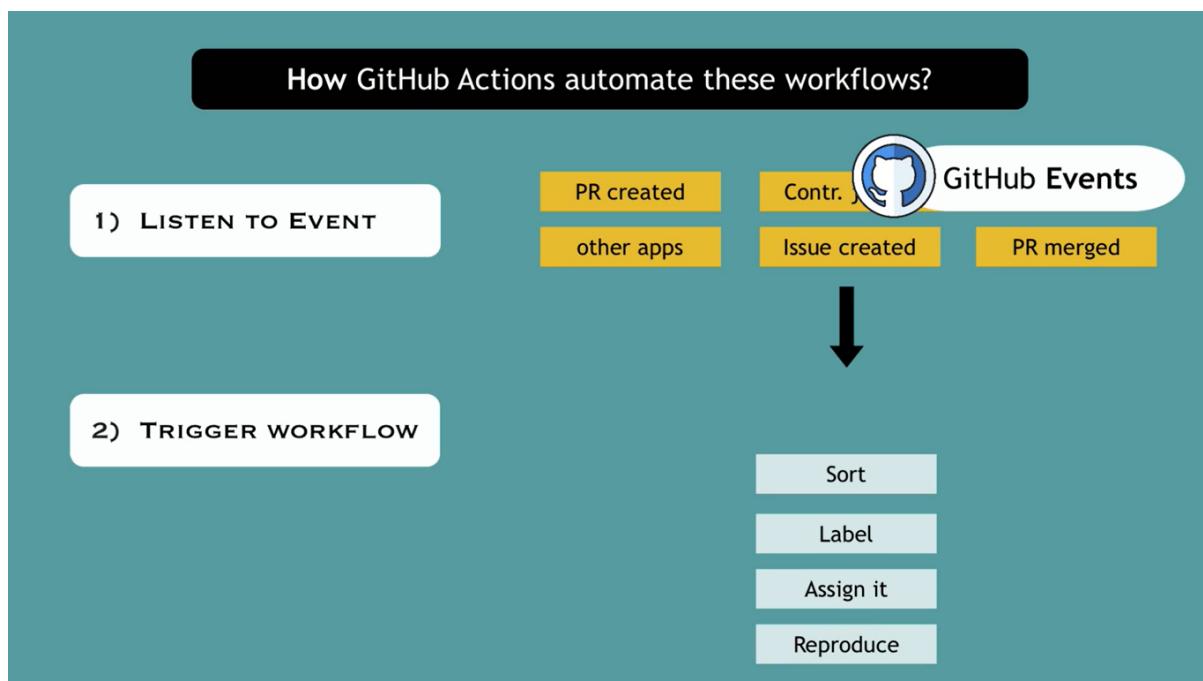
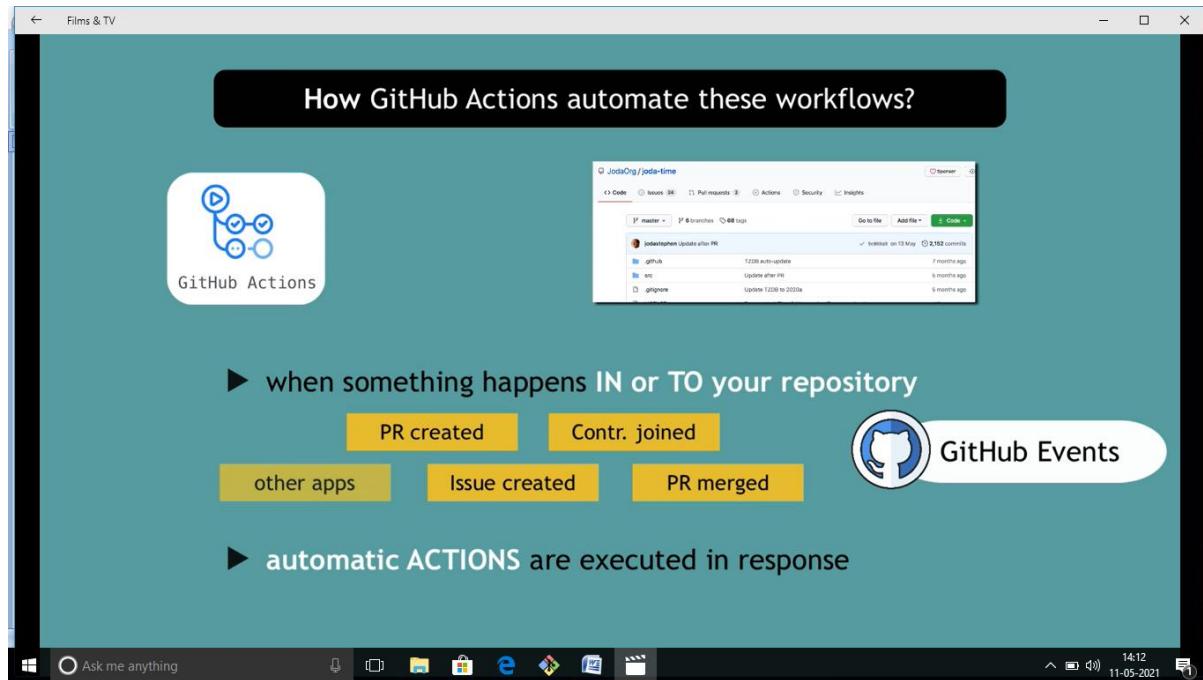


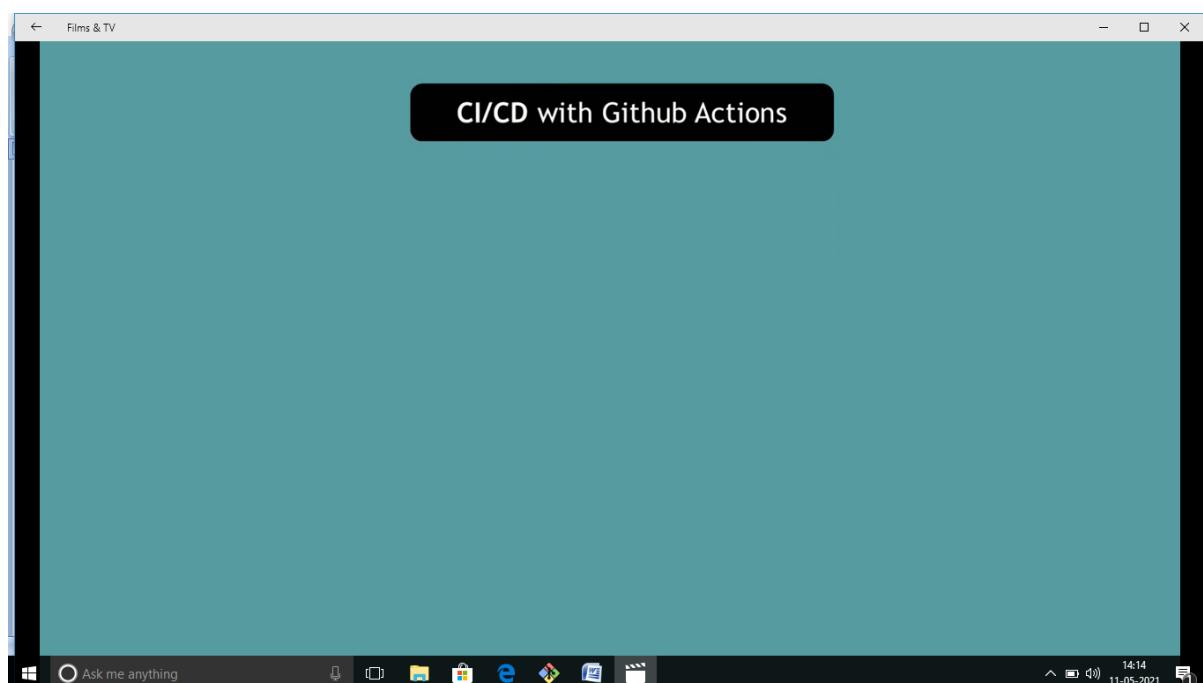
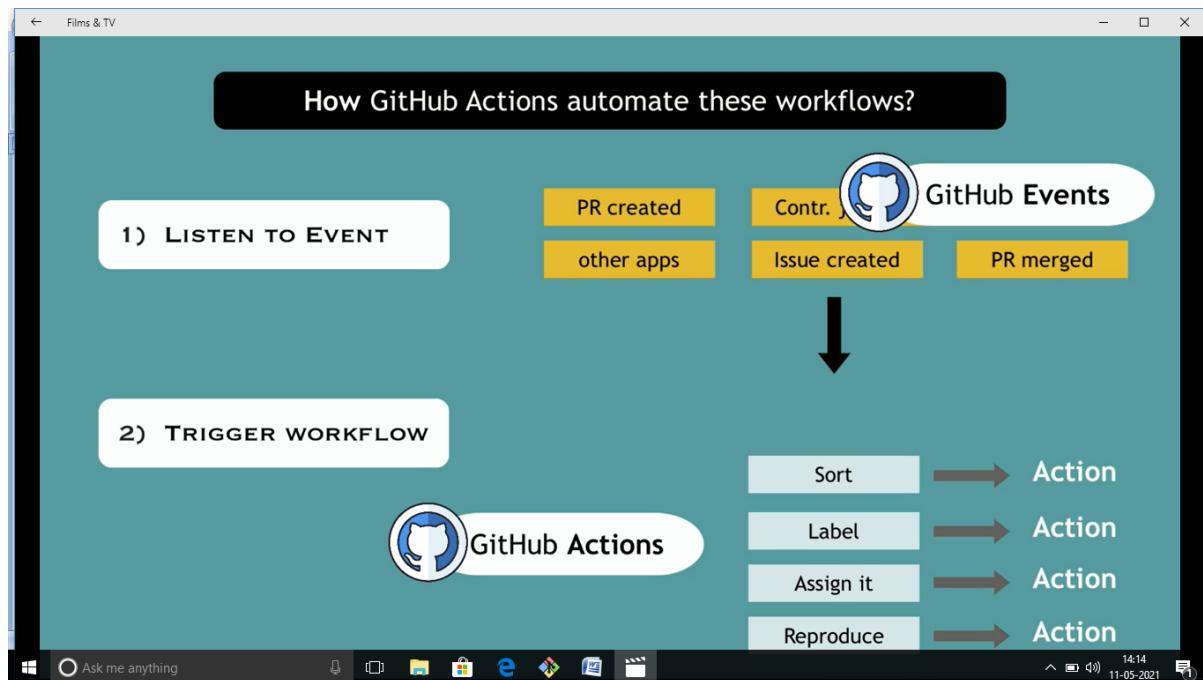
A screenshot of a Windows desktop showing a presentation slide. The slide has a teal background and features several sections: a GitHub Actions icon, a GitHub repository screenshot showing commit history for 'joda-time', and two bullet points under the heading 'How GitHub Actions automate these workflows?': '▶ when something happens IN or TO your repository' and '▶ automatic ACTIONS are executed in response'.

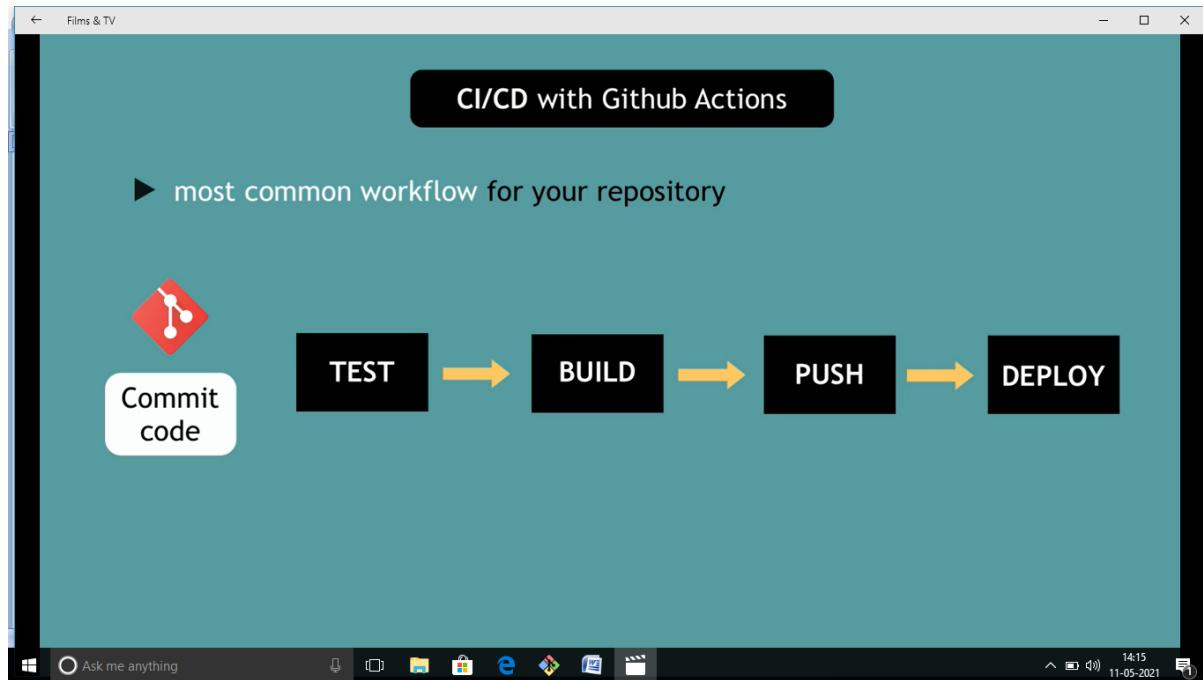
▶ when something happens IN or TO your repository

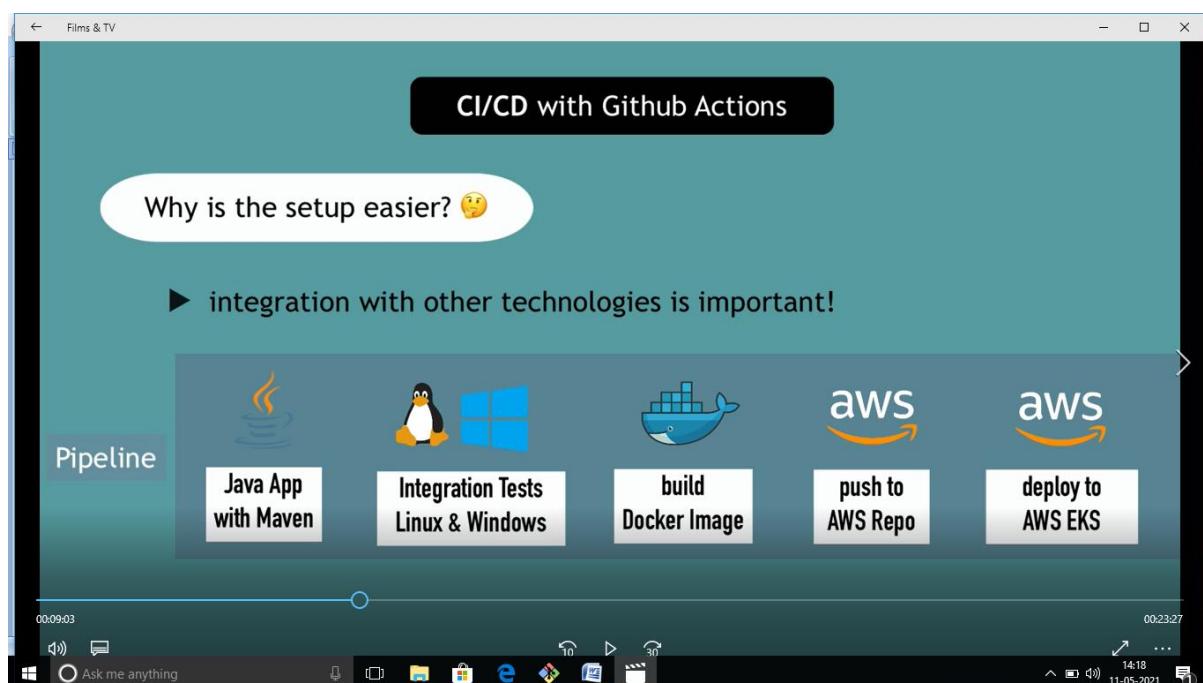
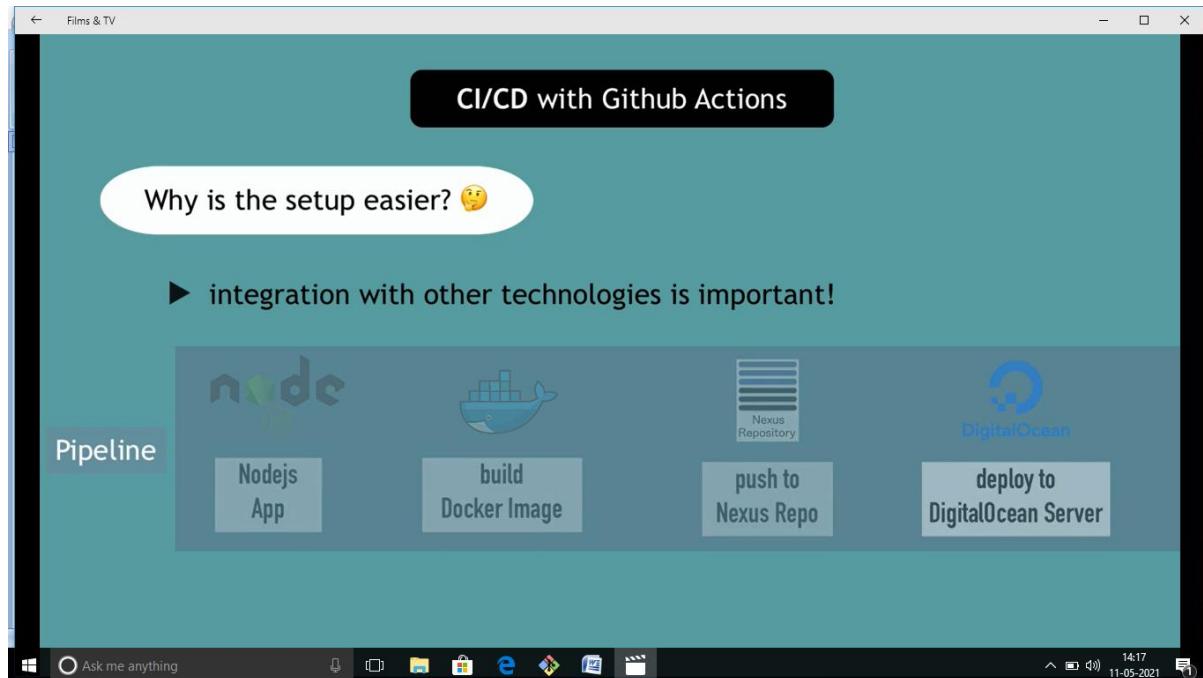
▶ automatic ACTIONS are executed in response

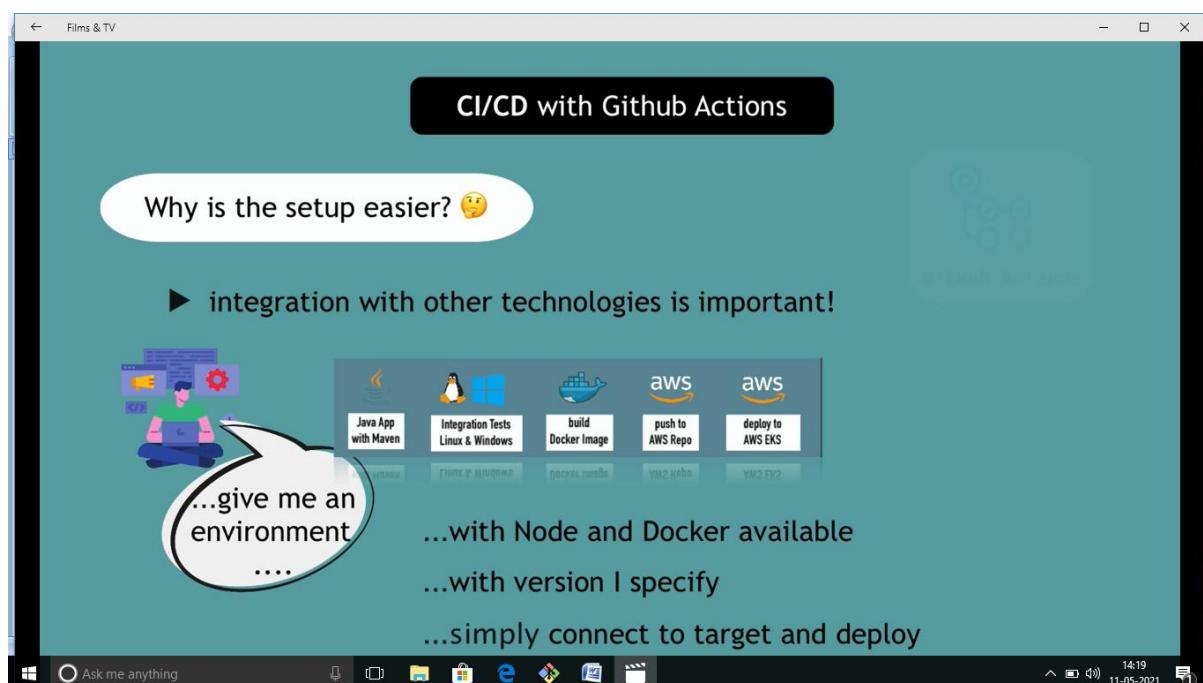
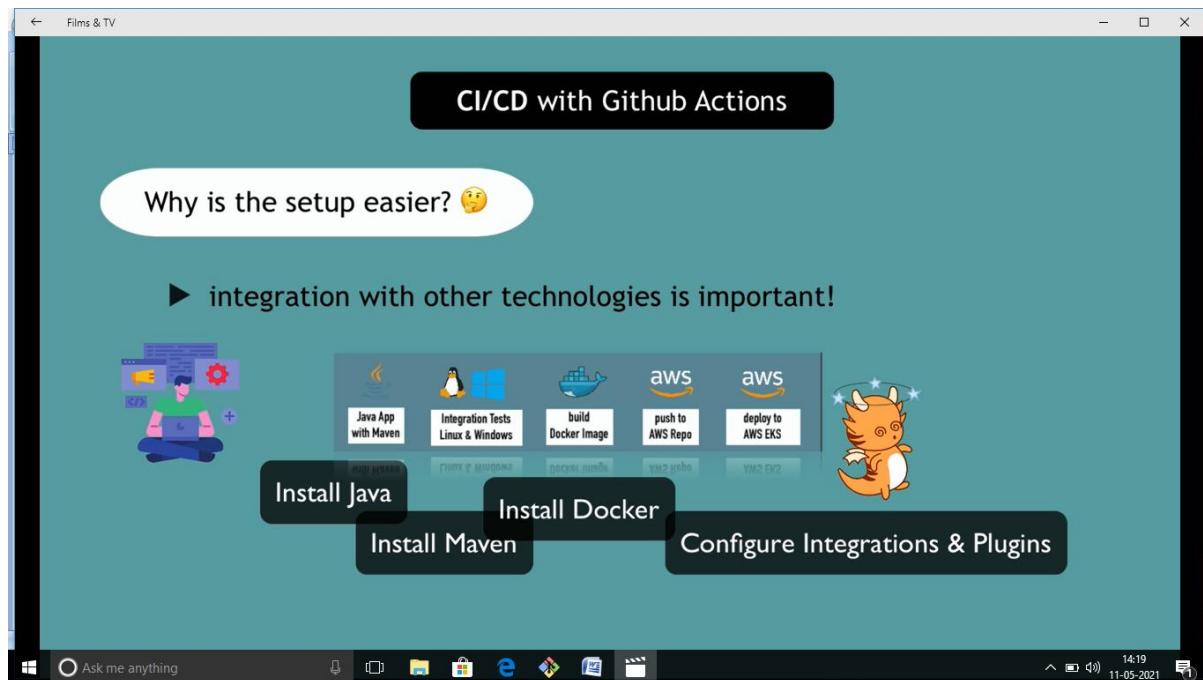
14:11 11-05-2021

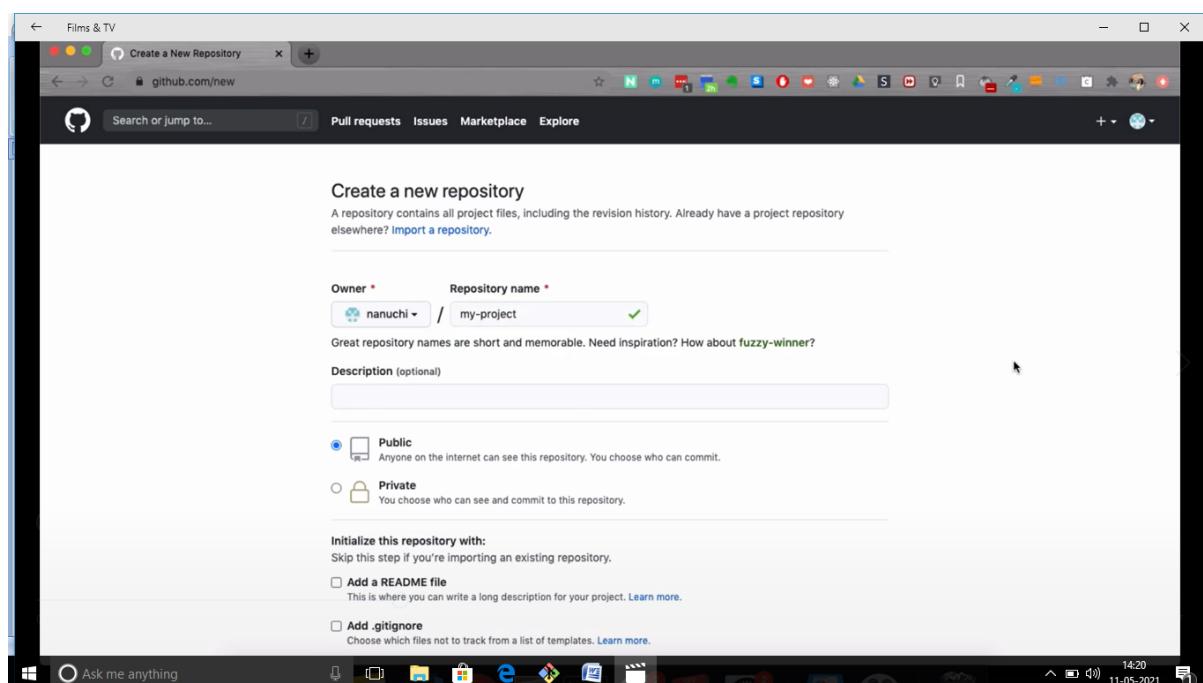
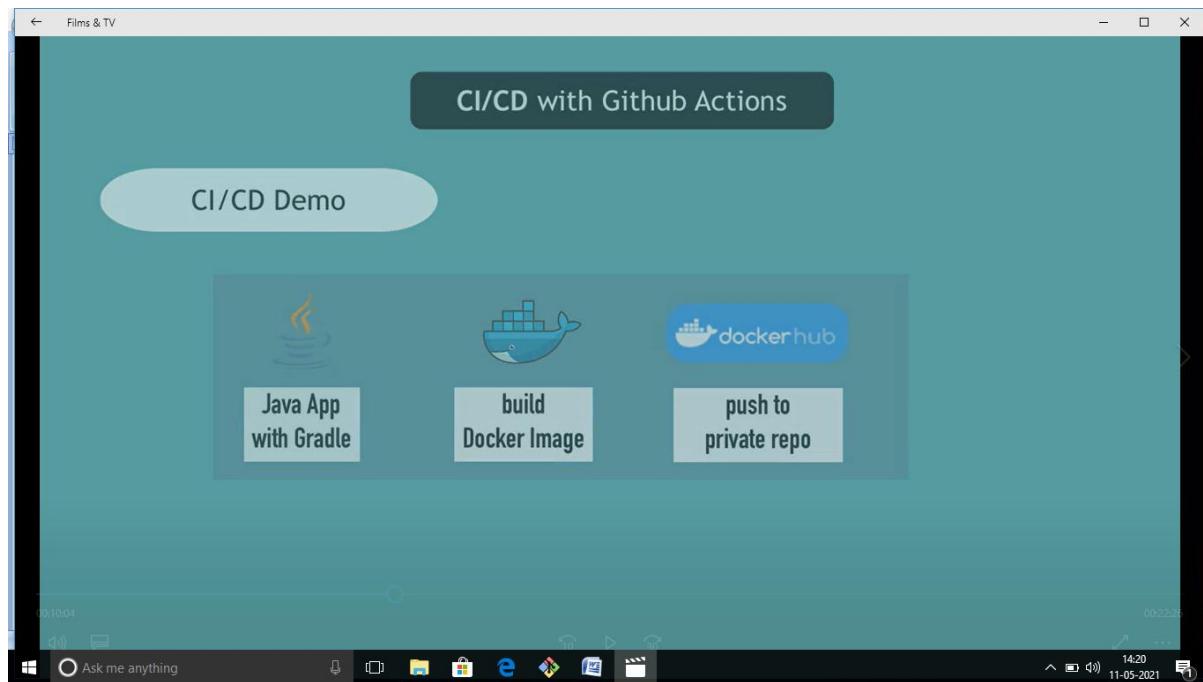


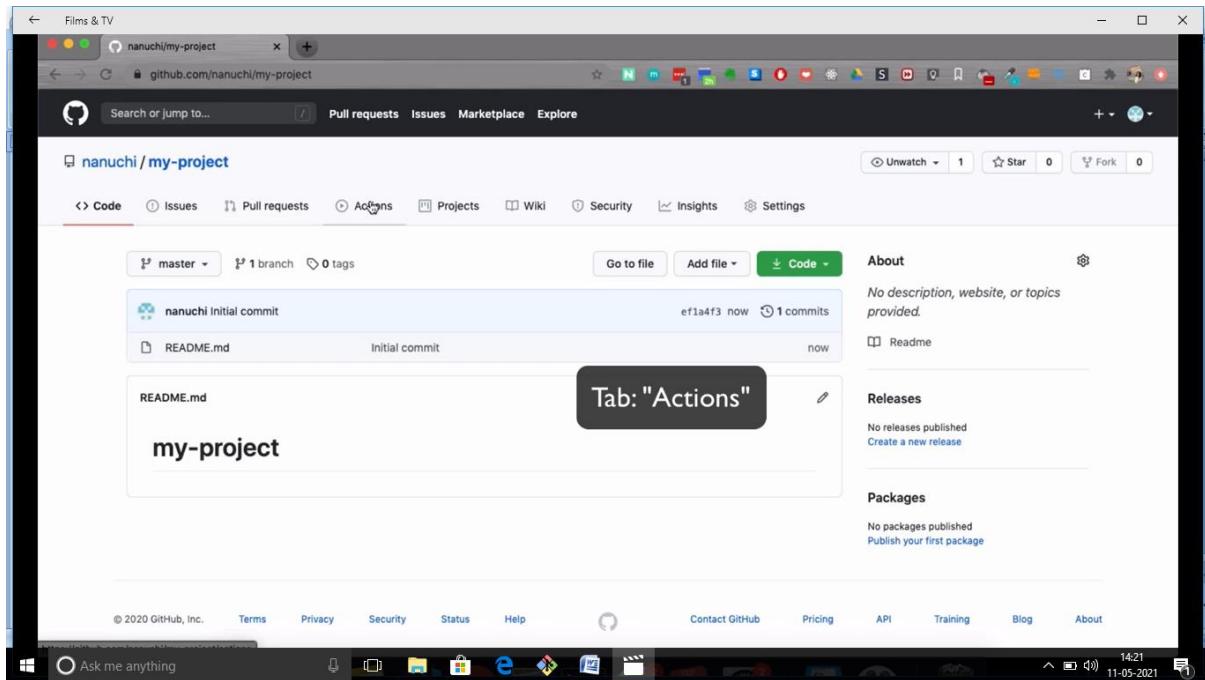












```
[java-app (master)]$ git push
Counting objects: 56, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (31/31), done.
Writing objects: 62% (35/56), 8.87 MiB | 1.12 MiB/s
```

Films & TV

Actions - nanuchi/my-project

github.com/nanuchi/my-project/actions/new

actions/starter-workflows

Deploy your code with these popular services

- Deploy Node.js to Azure Web App
By Microsoft Azure
Build a Node.js project and deploy it to an Azure Web App.
[Set up this workflow](#)
- Deploy to Amazon ECS
By Amazon Web Services
Deploy a container to an Amazon ECS service powered by AWS Fargate or Amazon EC2.
[Set up this workflow](#)
- Build and Deploy to GKE
By Google Cloud
Build a docker container, publish it to Google Container Registry, and deploy to GKE.
[Set up this workflow](#)
- Deploy to IBM Cloud Kubernetes Service
By IBM
Build a docker container, publish it to IBM Cloud Container Registry, and deploy to IBM Cloud Kubernetes Service.
[Set up this workflow](#)
- Tencent Kubernetes Engine
By Tencent Cloud
This workflow will build a docker container, publish and deploy it to Tencent Kubernetes Engine (TKE).
[Set up this workflow](#)
- Terraform
By HashiCorp
Set up Terraform CLI in your GitHub Actions workflow.
[Set up this workflow](#)

Continuous integration workflows

Ask me anything

14:22 11-05-2021

Films & TV

Actions - nanuchi/my-project

github.com/nanuchi/my-project/actions/new

actions/starter-workflows

Java with Maven
By GitHub Actions
Build and test a Java project with Apache Maven.
[Set up this workflow](#)

Jekyll
By GitHub Actions
Package a Jekyll site using the jekyll/builder Docker image.
[Set up this workflow](#)

D
By GitHub Actions
Build and test a D project with dub.
[Set up this workflow](#)

Java with Ant
By GitHub Actions
Build and test a Java project with Apache Ant.
[Set up this workflow](#)

Android CI
By GitHub Actions
Build an Android project with Gradle.
[Set up this workflow](#)

Publish Docker Container
By GitHub Actions
Build, test and push Docker image to GitHub Packages.
[Set up this workflow](#)

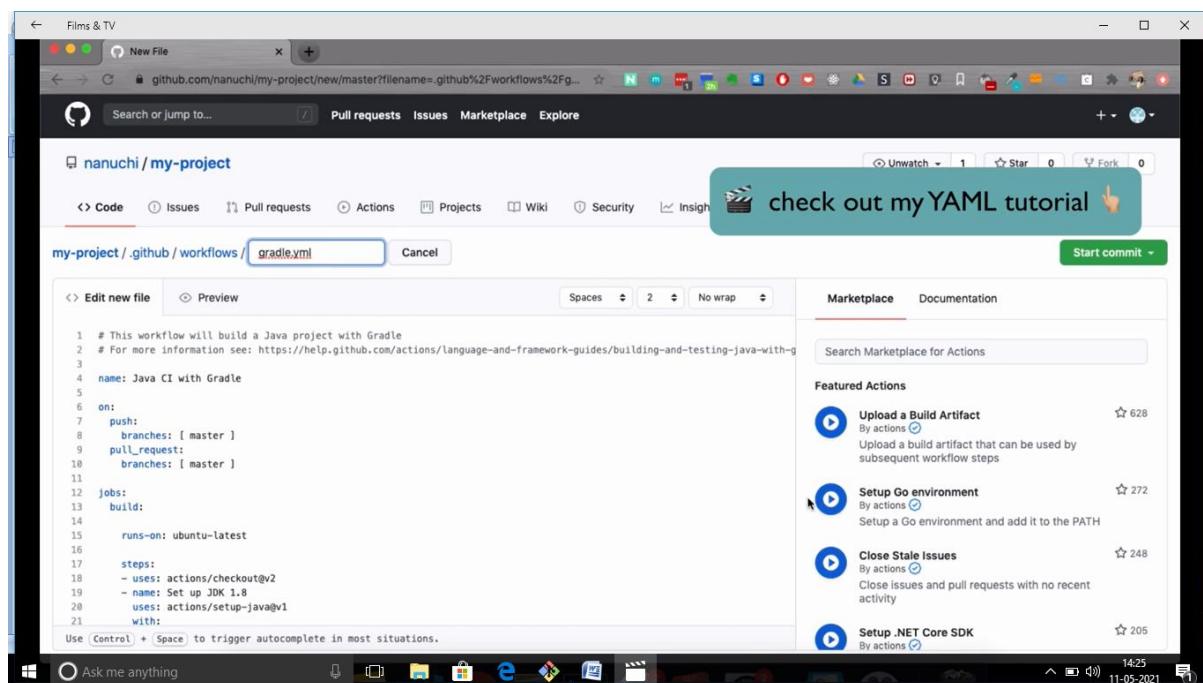
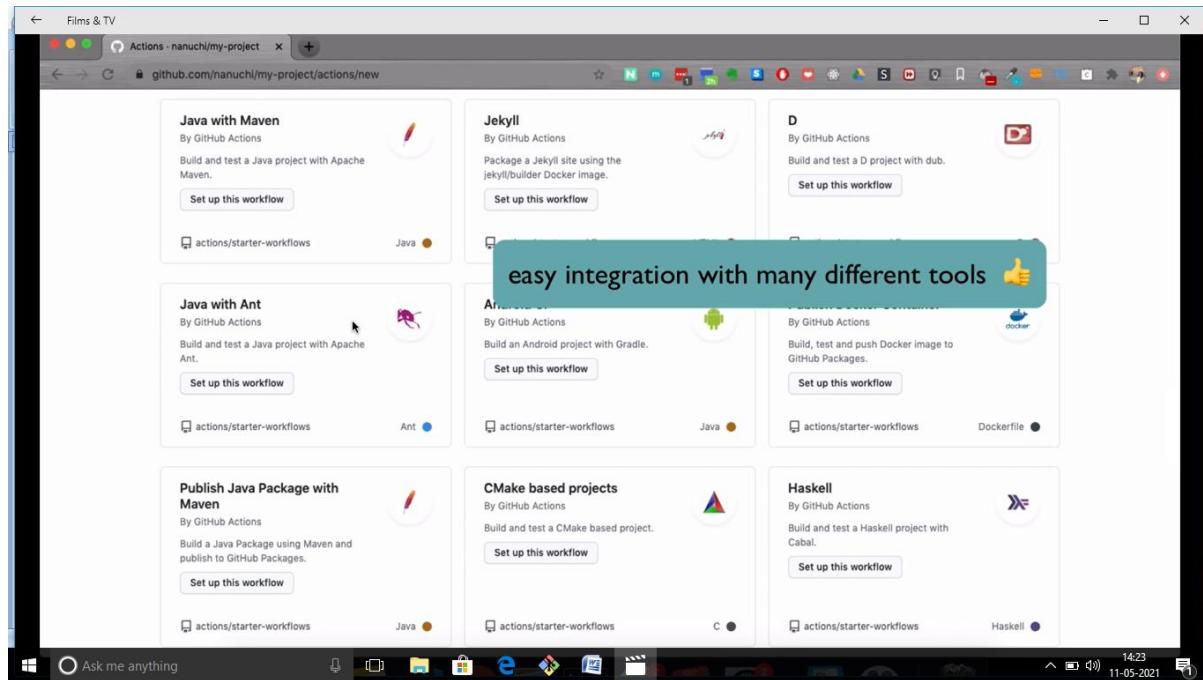
Publish Java Package with Maven
By GitHub Actions
Build a Java Package using Maven and publish to GitHub Packages.
[Set up this workflow](#)

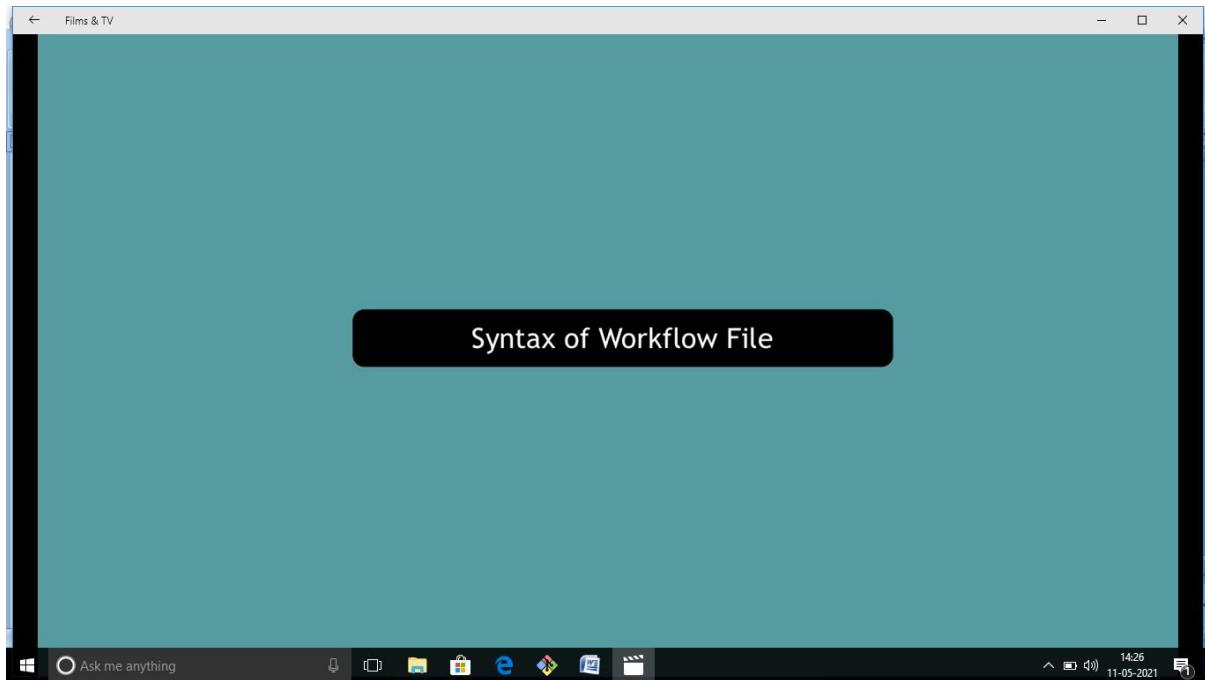
CMake based projects
By GitHub Actions
Build and test a CMake based project.
[Set up this workflow](#)

Haskell
By GitHub Actions
Build and test a Haskell project with Cabal.
[Set up this workflow](#)

Ask me anything

14:23 11-05-2021





A screenshot of a Windows desktop showing a GitHub workflow file named "build-test-app.yaml" in a code editor. The file contains YAML configuration for a CI pipeline. To the right of the code, two annotations explain specific parts of the syntax:

- A callout box labeled "Syntax" points to the "name" field, which is described as "[optional]".
- A callout box labeled "Syntax" points to the "on" field, which is described as "[required]".

The code editor interface includes a sidebar with various icons and a status bar at the bottom showing the date and time.

```
! build-test-app.yaml x
1 # This workflow will build a Java project
2 # For more information see: https://help.github.com
3
4 name: Java CI with Gradle
5
6 on:
7   push:
8     branches: [ master ]
9   pull_request:
10    branches: [ master ] }
11
12 jobs:
13   build:
14
15     runs-on: ubuntu-latest
16
17     steps:
18       - uses: actions/checkout@v2
19       - name: Set up JDK 1.8
20         uses: actions/setup-java@v1
21         with:
22           java-version: 1.8
```

```

! build-test-app.yaml x
1 # This workflow will build a Java project
2 # For more information see: https://help.github.com...
3
4 name: Java CI with Gradle
5
6 on:
7   push:
8     branches: [ master ]
9   pull_request:
10    branches: [ master ]
11
12 jobs:
13   build:
14
15     runs-on: ubuntu-latest
16
17     steps:
18       - uses: actions/checkout@v2
19       - name: Set up JDK 1.8
20         uses: actions/setup-java@v1
21         with:
22           java-version: 1.8

```

Syntax

name	[optional]
on	[required]

..name of GitHub event that triggers the workflow

The following steps occur to trigger a workflow run:

- 1 An event occurs on your repository, and the resulting event has an associated commit SHA and Git ref.
- 2 The `.github/workflows` directory in your repository is searched for workflow files at the associated commit SHA or Git ref. The workflow files must be present in that commit SHA or Git ref to be considered.
- 3 The workflow files for that commit SHA and Git ref are inspected, and a new workflow run is triggered for any workflows that have `on: $event` values that match the triggering event.

Note: You cannot trigger new workflow runs using the `GITHUB_TOKEN`. For more information, see "Triggering new workflows using a personal access token."

Did this doc help you?

issue_comment
issues
label
milestone
page_build
project
project_card
project_column
public
pull_request
pull_request_review
pull_request_review_comment
pull_request_target
push
registry_package
release
status
watch
workflow_run

Triggering new workflows using a personal access token

The screenshot shows a Windows desktop environment. In the foreground, a code editor window displays a GitHub Actions workflow file named 'build-test-app.yaml'. The file contains configuration for branches, jobs, and steps, including actions like 'actions/checkout@v2' and 'actions/setup-java@v1'. To the right of the code editor, a large teal-colored diagram titled 'Syntax' provides a visual overview of the workflow structure. The diagram includes sections for 'name' (optional), 'on' (required events like pull_request), 'jobs' (required), and 'uses' (selects an action). It also lists components such as 'branches', 'pull_request', 'jobs', 'steps', and 'actions'. Below these, it details how 'jobs' can be one or more jobs or a sequence of tasks, and how 'steps' can run commands, setup tasks, or run an action.

```
! build-test-app.yaml ●
8   branches: [ master ]
9   pull_request:
10  branches: [ master ]
11
12 jobs:
13   build:
14
15     runs-on: ubuntu-latest
16
17     steps:
18       - uses: actions/checkout@v2
19
20       - name: Set up JDK 1.8
21         uses: actions/setup-java@v1
22         with:
23           java-version: 1.8
24
25       - name: Grant execute permission for script
26         run: chmod +x gradlew
27
28       - name: Build with Gradle
29         run: ./gradlew build
```

Syntax

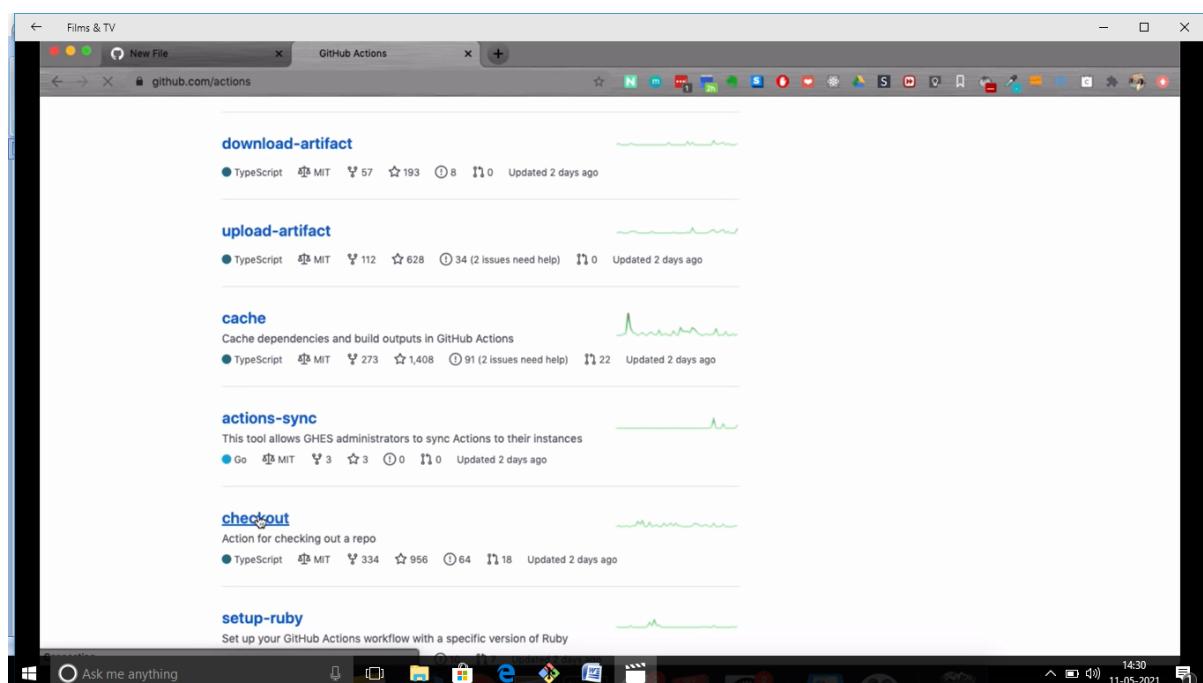
name [optional]

on [required] events

jobs [required]

- one or more jobs jobs.<job_id>
- sequence of tasks (steps)
- steps can run commands, setup tasks OR run an action

uses - selects an action



A screenshot of a Windows desktop environment showing a GitHub Actions configuration file in a browser window. The file is titled 'checkout/action.yml at main'. The code is as follows:

```
1 name: 'Checkout'
2 description: 'Checkout a Git repository at a particular version'
3 inputs:
4   repository:
5     description: 'Repository name with owner. For example, actions/checkout'
6     default: ${{ github.repository }}
7   ref:
8     description: '>
9       The branch, tag or SHA to checkout. When checking out the repository that
10      triggered a workflow, this defaults to the reference or SHA for that
11      event. Otherwise, uses the default branch.
12   token:
13     description: '>
14       Personal access token (PAT) used to fetch the repository. The PAT is configured
15       with the local git config, which enables your scripts to run authenticated git
16       commands. The post-job step removes the PAT.
17
18
19       We recommend using a service account with the least permissions necessary.
20       Also when generating a new PAT, select the least scopes necessary.
21
22
23       [Learn more about creating and using encrypted secrets](https://help.github.com/en/actions/automating-your-workflow-with-github-actions/creating-and-using)
24       default: ${{ github.token }}
25   ssh-key:
26     description: '>
27       SSH key used to fetch the repository. The SSH key is configured with the local
28       git config, which enables your scripts to run authenticated git commands.
29       The post-job step removes the SSH key.
30
```

A screenshot of a Windows desktop environment showing a GitHub Actions configuration file in a browser window. The file is titled 'actions/checkout: Action for cl...' and is located at 'github.com/actions/checkout'. The code is as follows:

```
# Known hosts in addition to the user and global host key database. The public SSH
# keys for a host may be obtained using the utility 'ssh-keyscan'. For example,
# 'ssh-keyscan github.com'. The public key for github.com is always implicitly
# added.
ssh-known-hosts: ''

# Whether to perform strict host key checking. When true, adds the options
# 'StrictHostKeyChecking=yes' and 'CheckHostIP=no' to the SSH command line. Use
# the input 'ssh-known-hosts' to configure additional hosts.
# Default: true
ssh-strict: ''

# Whether to configure the token or SSH key with the local git config
# Default: true
persist-credentials: ''

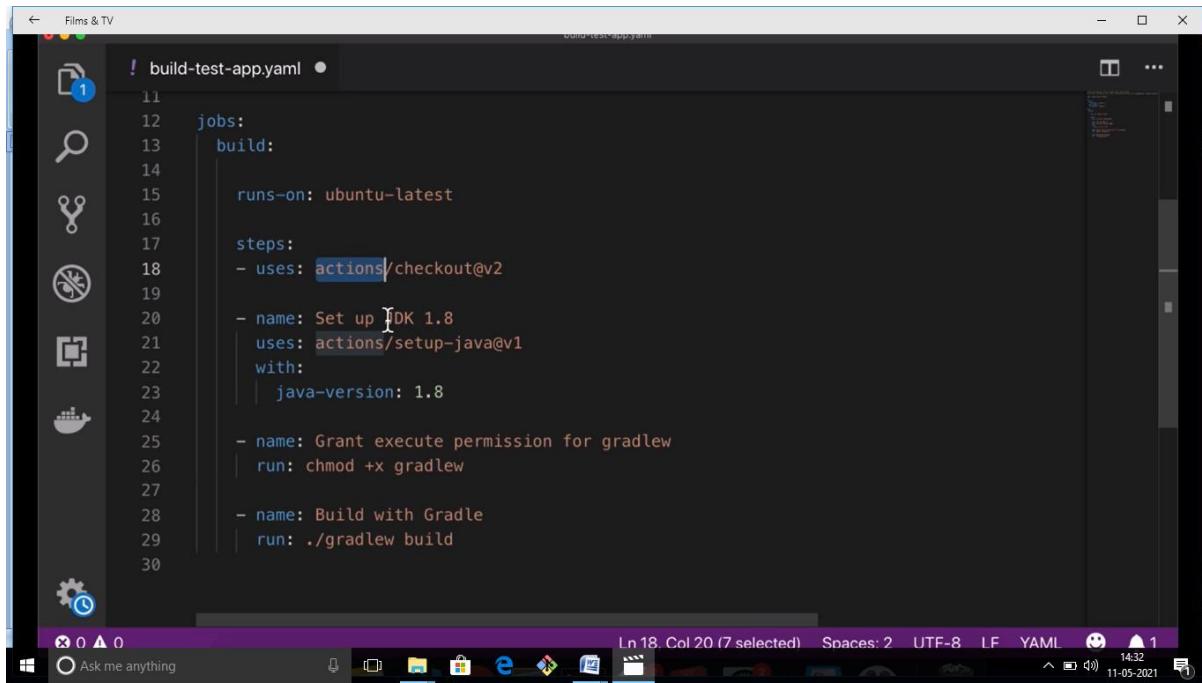
# Relative path under $GITHUB_WORKSPACE to place the repository
path: ''

# Whether to execute 'git clean -ffdx && git reset --hard HEAD' before fetching
# Default: true
clean: ''

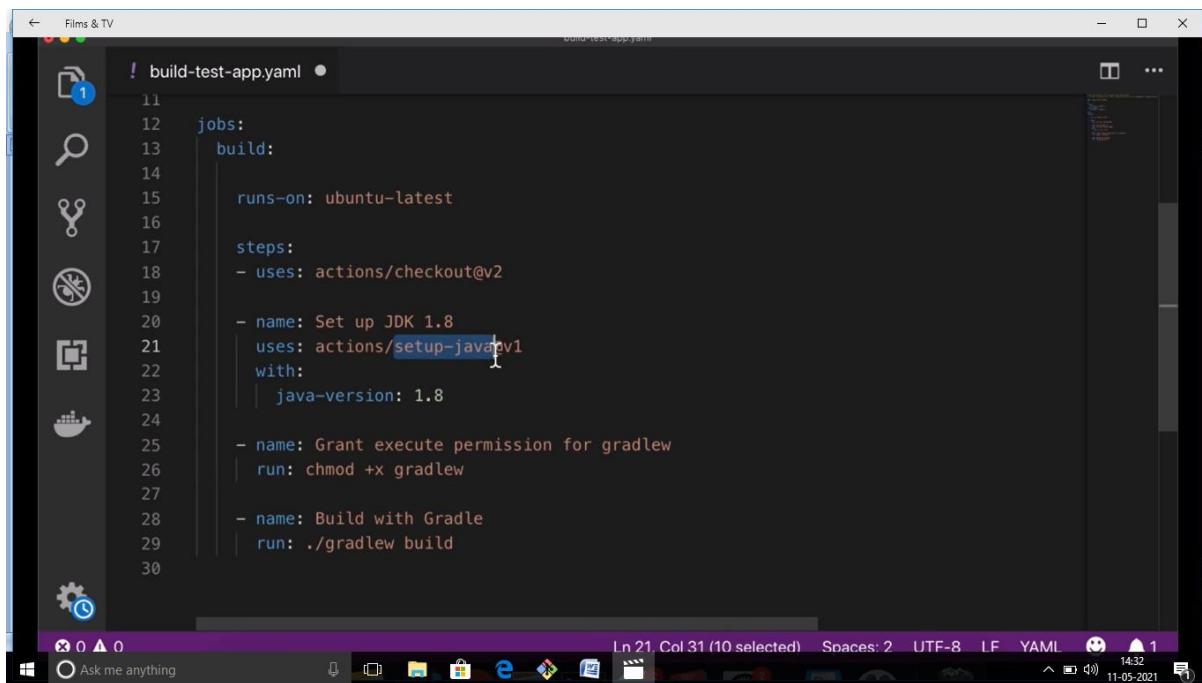
# Number of commits to fetch. 0 indicates all history for all branches and tags.
# Default: 1
fetch-depth: ''

# Whether to download Git-LFS files
# Default: false
lfs: ''

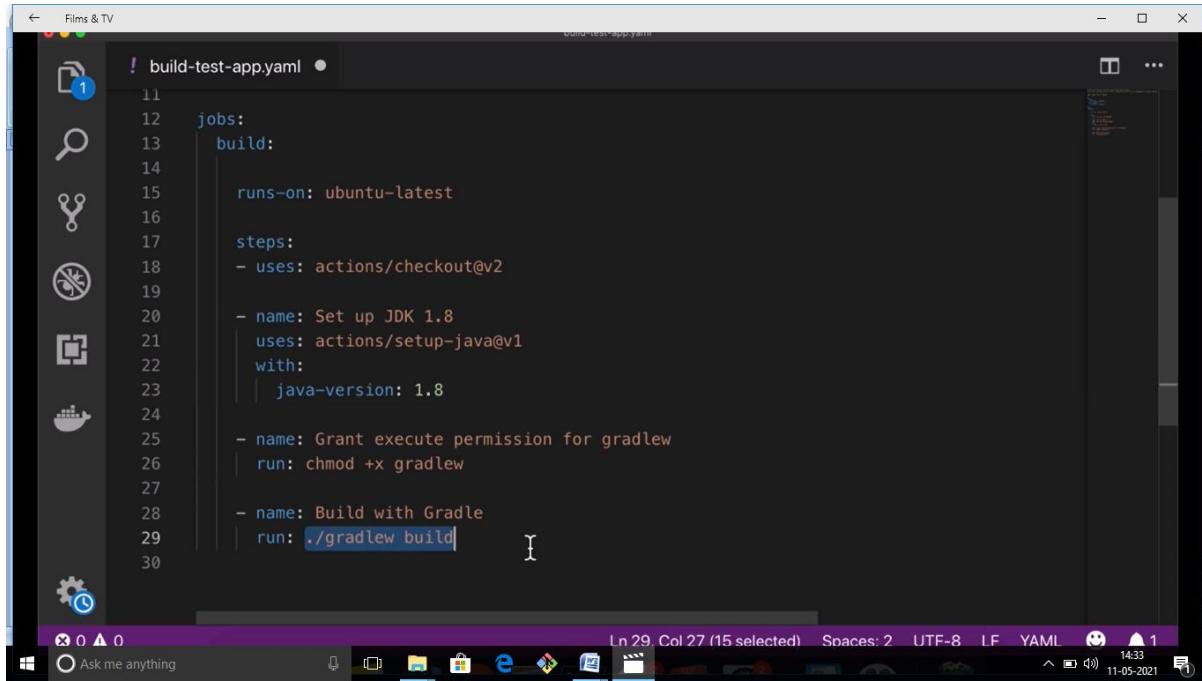
# Whether to checkout submodules: 'true' to checkout submodules or 'recursive' to
# recursively checkout submodules.
#
# When the 'ssh-key' input is not provided, SSH URLs beginning with
# 'git@github.com:' are converted to HTTPS.
#
```



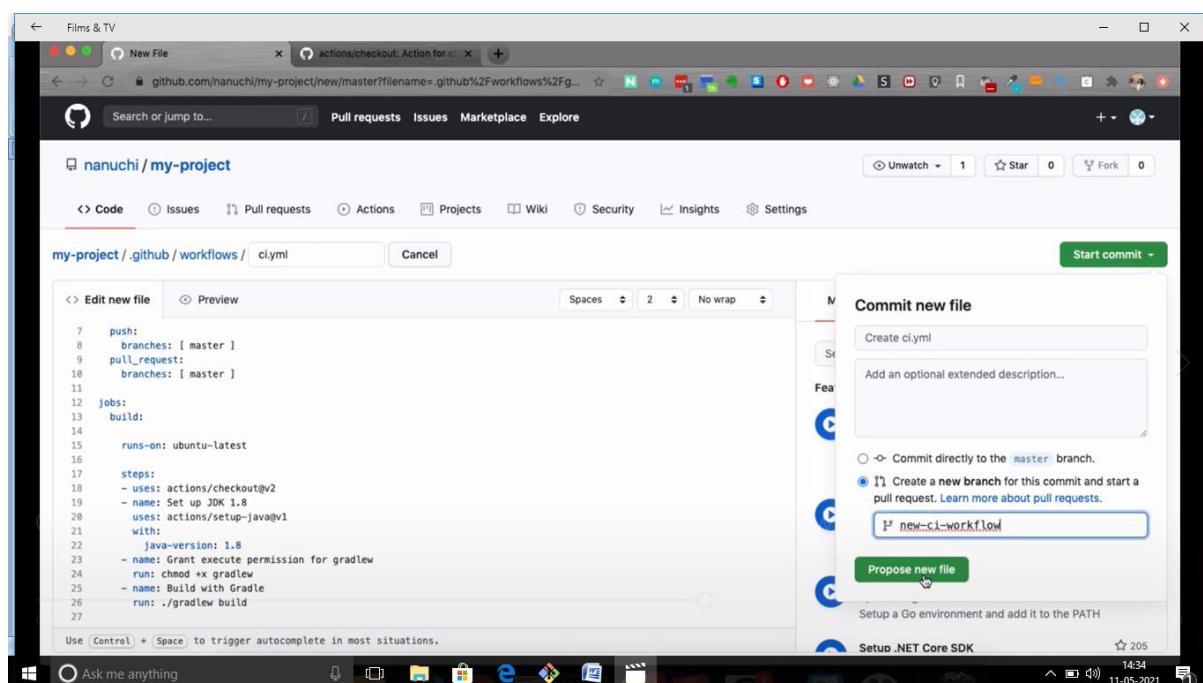
```
! build-test-app.yaml ●
11
12   jobs:
13     build:
14
15       runs-on: ubuntu-latest
16
17       steps:
18         - uses: actions/checkout@v2
19
20         - name: Set up JDK 1.8
21           uses: actions/setup-java@v1
22           with:
23             java-version: 1.8
24
25         - name: Grant execute permission for gradlew
26           run: chmod +x gradlew
27
28         - name: Build with Gradle
29           run: ./gradlew build
30
```

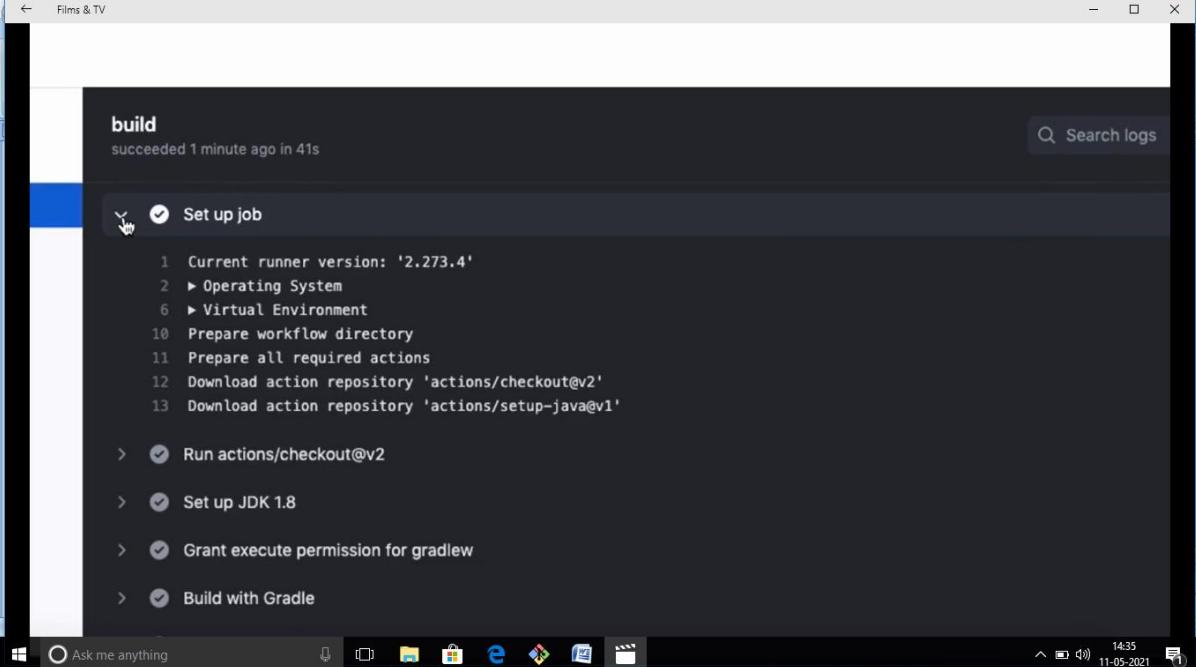


```
! build-test-app.yaml ●
11
12   jobs:
13     build:
14
15       runs-on: ubuntu-latest
16
17       steps:
18         - uses: actions/checkout@v2
19
20         - name: Set up JDK 1.8
21           uses: actions/setup-java@v1
22           with:
23             java-version: 1.8
24
25         - name: Grant execute permission for gradlew
26           run: chmod +x gradlew
27
28         - name: Build with Gradle
29           run: ./gradlew build
30
```



```
! build-test-app.yaml
11
12   jobs:
13     build:
14
15       runs-on: ubuntu-latest
16
17       steps:
18         - uses: actions/checkout@v2
19
20         - name: Set up JDK 1.8
21           uses: actions/setup-java@v1
22           with:
23             java-version: 1.8
24
25         - name: Grant execute permission for gradlew
26           run: chmod +x gradlew
27
28         - name: Build with Gradle
29           run: ./gradlew build
```





Films & TV

build
succeeded 1 minute ago in 41s

Search logs

Set up job

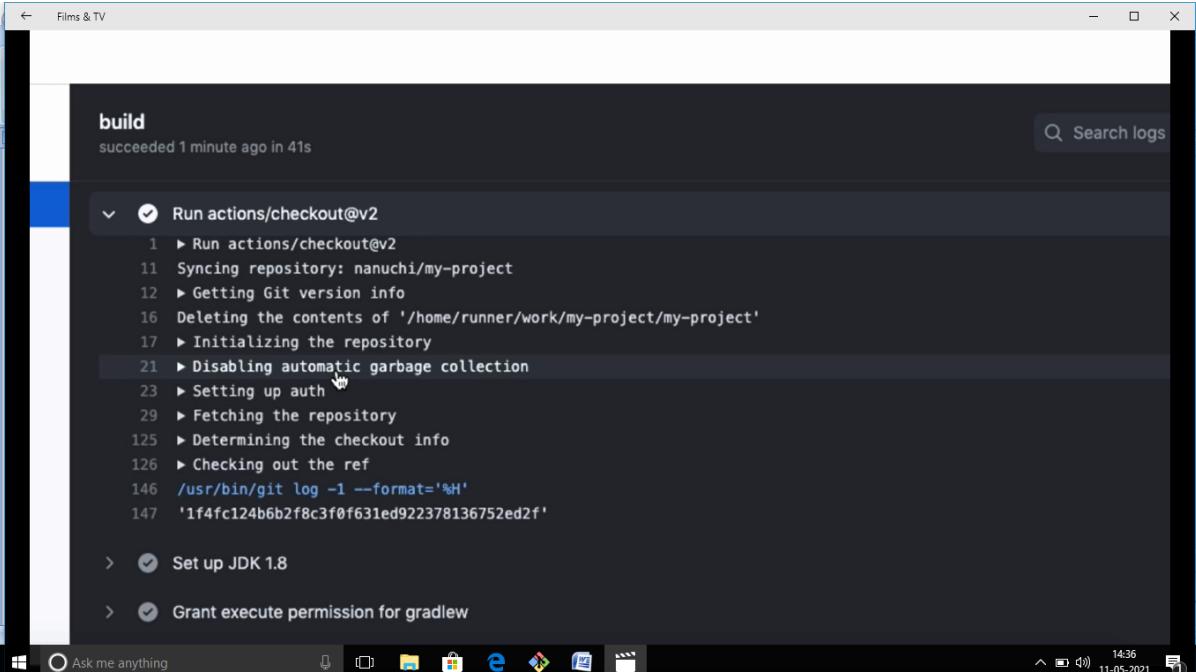
- 1 Current runner version: '2.273.4'
- 2 ► Operating System
- 6 ► Virtual Environment
- 10 Prepare workflow directory
- 11 Prepare all required actions
- 12 Download action repository 'actions/checkout@v2'
- 13 Download action repository 'actions/setup-java@v1'

Run actions/checkout@v2

- Set up JDK 1.8
- Grant execute permission for gradlew
- Build with Gradle

Ask me anything

14:35 11-05-2021



Films & TV

build
succeeded 1 minute ago in 41s

Search logs

Run actions/checkout@v2

- 1 ► Run actions/checkout@v2
- 11 Syncing repository: nanuchi/my-project
- 12 ► Getting Git version info
- 16 Deleting the contents of '/home/runner/work/my-project/my-project'
- 17 ► Initializing the repository
- 21 ► Disabling automatic garbage collection
- 23 ► Setting up auth
- 29 ► Fetching the repository
- 125 ► Determining the checkout info
- 126 ► Checking out the ref
- 146 /usr/bin/git log -1 --format='%H'
- 147 '1f4fc124b6b2f8c3f0f631ed922378136752ed2f'

Set up JDK 1.8

Grant execute permission for gradlew

Ask me anything

14:36 11-05-2021

Films & TV

build

succeeded 2 minutes ago in 41s

Search logs

- ✓ Set up JDK 1.8
 - 15
 - 16 Written by John Gilmore and Jay Fenlon.
 - 17 /bin/tar xz --warning=no-unknown-keyword -C /home/runner/work/_temp/temp_1493523920 -f /home/runner/work/_temp/7e3bc59fe202d
 - 18 creating settings.xml with server-id: github; environment variables: username=\$GITHUB_ACTOR, password=\$GITHUB_TOKEN, passphrase=null
 - 19 writing /home/runner/.m2/settings.xml
- Grant execute permission for gradlew
- ✓ Build with Gradle
 - 1 ▶ Run ./gradlew build
 - 8 Downloading <https://services.gradle.org/distributions/gradle-4.10-all.zip>

00:20:18 10 00:12:12

11 Welcome to Gradle 4.10!

Ask me anything

14:36 11-05-2021

Films & TV

build

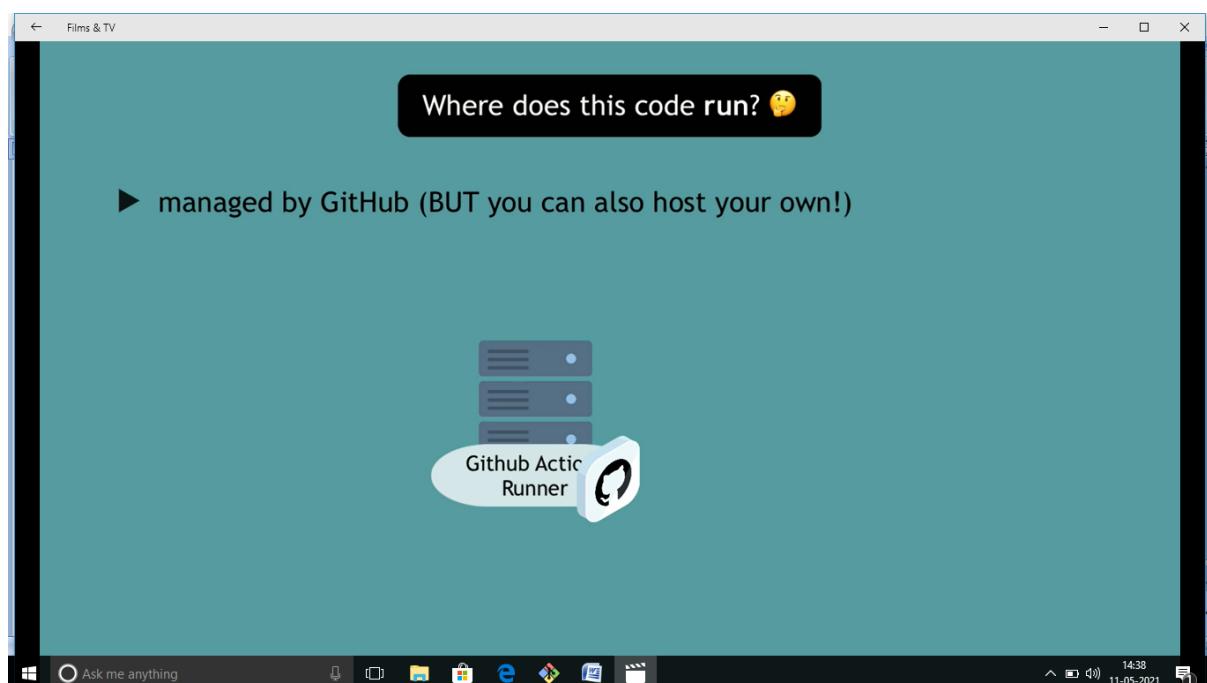
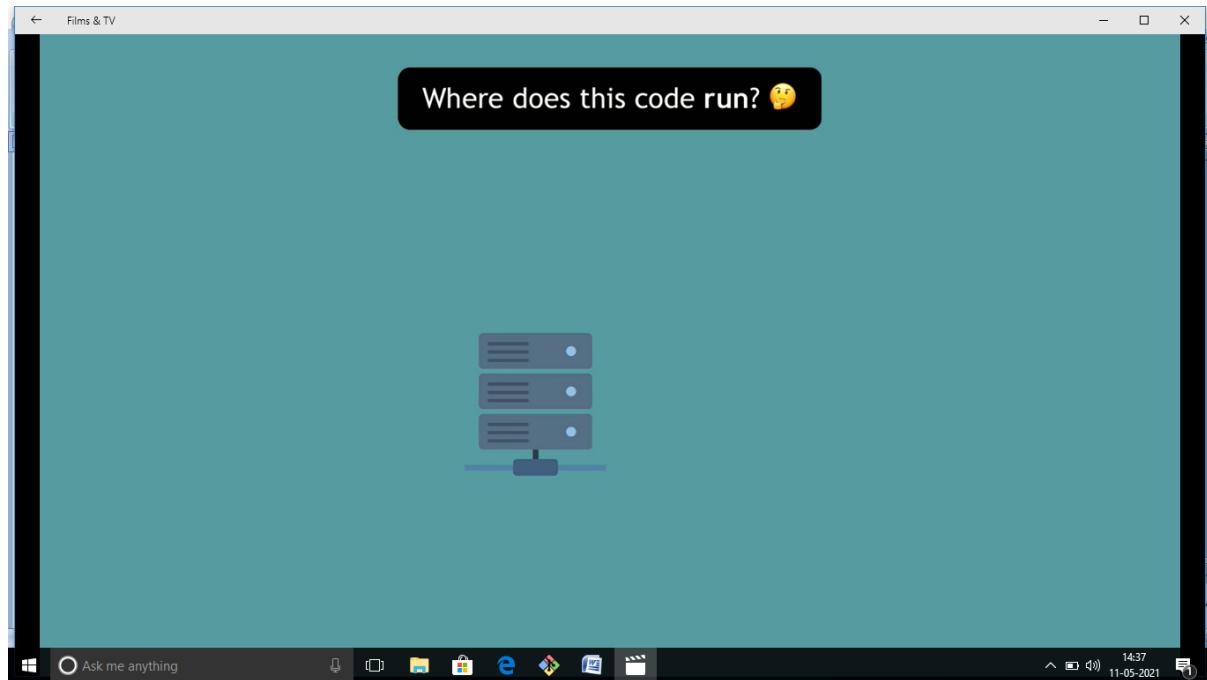
succeeded 3 minutes ago in 41s

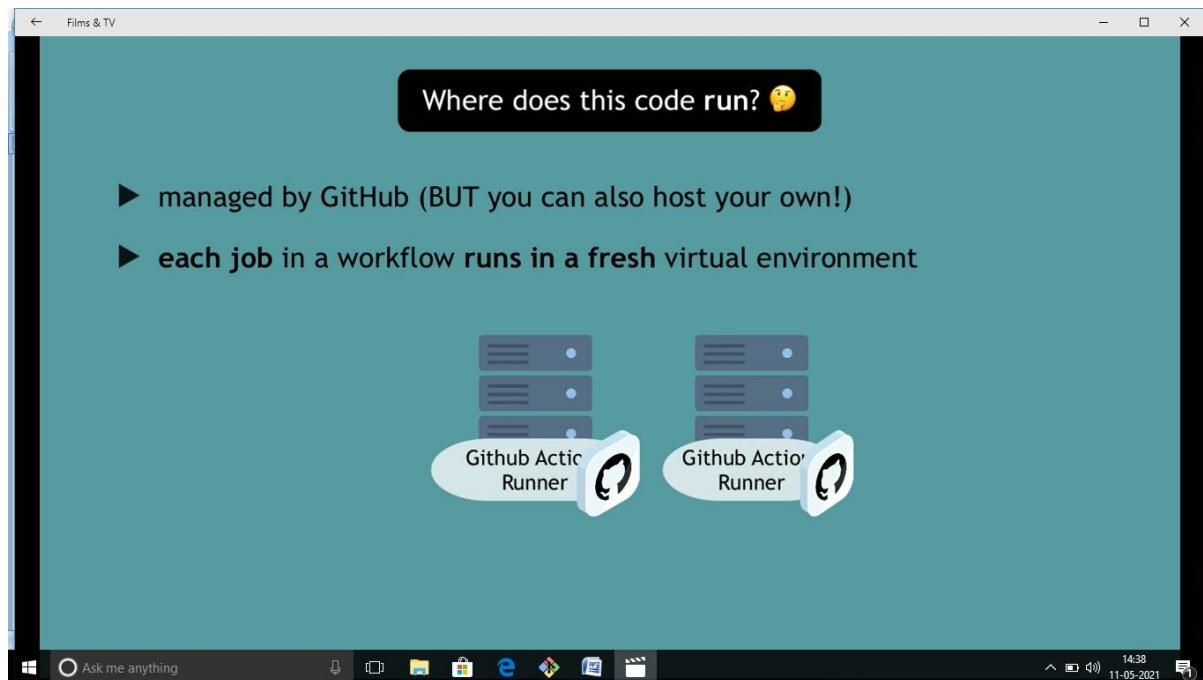
Search logs

- ✓ Post Set up JDK 1.8
- ✓ Post Run actions/checkout@v2
 - 1 Post job cleanup.
 - 2 /usr/bin/git version
 - 3 git version 2.28.0
 - 4 /usr/bin/git config --local --name-only --get-regexp core\\.sshCommand
 - 5 /usr/bin/git submodule foreach --recursive git config --local --name-only --get-regexp 'core\\.sshCommand' && git all 'core.sshCommand' || :
 - 6 /usr/bin/git config --local --name-only --get-regexp http\\.https:\\/\\/github\\.com\\\\.extraheader
 - 7 http.<https://github.com/.extraheader>
 - 8 /usr/bin/git config --local --unset-all http.https://github.com/.extraheader
 - 9 /usr/bin/git submodule foreach --recursive git config --local --name-only --get-regexp 'http\\.https:\\/\\/github\\.git config --local --unset-all 'http.<https://github.com/.extraheader>' || :
- ✓ Complete job

Ask me anything

14:36 11-05-2021





A screenshot of a Windows desktop showing a GitHub Actions YAML configuration file named "build-test-app.yaml". The file contains the following code:

```
11
12   jobs:
13     build:
14       runs-on: ubuntu-latest
15
16       steps:
17         - uses: actions/checkout@v2
18
19         - name: Set up JDK 1.8
20           uses: actions/setup-java@v1
21           with:
22             java-version: 1.8
23
24         - name: Grant execute permission for gradlew
25           run: chmod +x gradlew
26
27         - name: Build with Gradle
28           run: ./gradlew build
29
30
31       publish|
```

A callout bubble highlights the word "parallel" in the line "runs in **parallel** by default!".

```
! build-test-app.yaml
  branches: [ master ]
  pull_request:
    branches: [ master ]

  jobs:
    build:
      runs-on: ubuntu-latest
      steps:
        - uses: actions/checkout@v2

        - name: Set up JDK 1.8
          uses: actions/setup-java@v1
          with:
            java-version: 1.8

        - name: Grant execute permission for gradlew
          run: chmod +x gradlew

        - name: Build with Gradle
          run: ./gradlew build
```

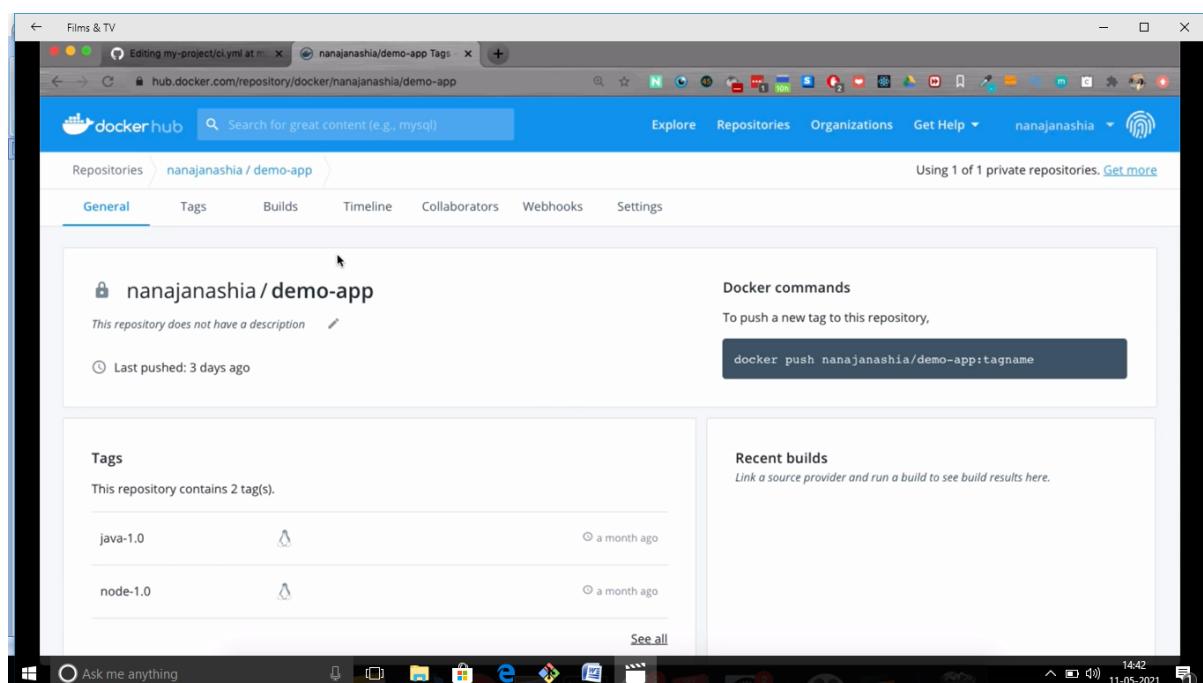
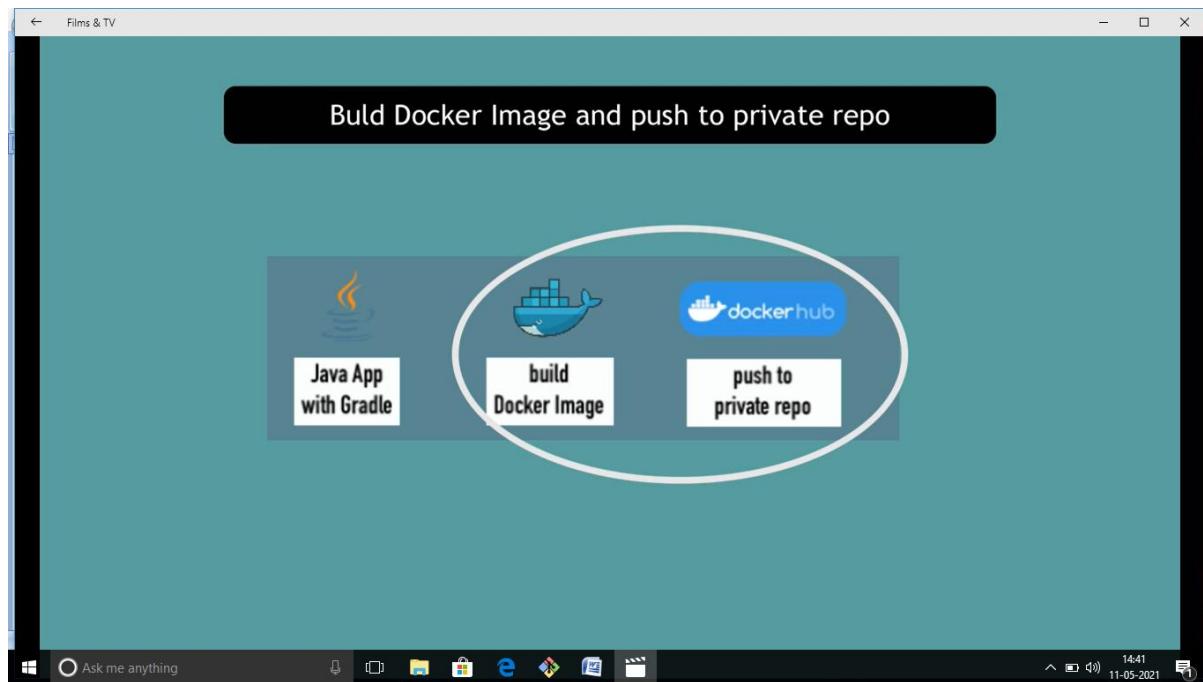
```
! build-test-app.yaml
  branches: [ master ]
  pull_request:
    branches: [ master ]

  jobs:
    build:
      runs-on: ubuntu-latest
      strategy:
        matrix:
          os: [ubuntu-latest, windows]

      steps:
        - uses: actions/checkout@v2

        - name: Set up JDK 1.8
          uses: actions/setup-java@v1
          with:
            java-version: 1.8

        - name: Grant execute permission for gradlew
          run: chmod +x gradlew
```



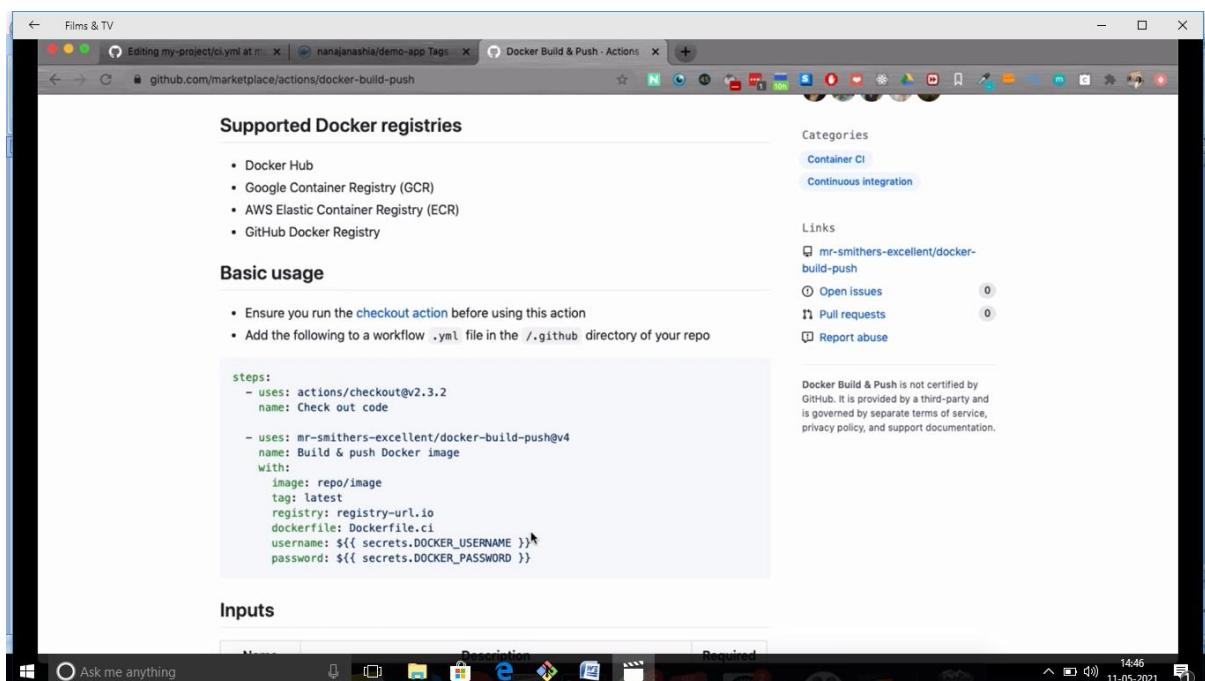
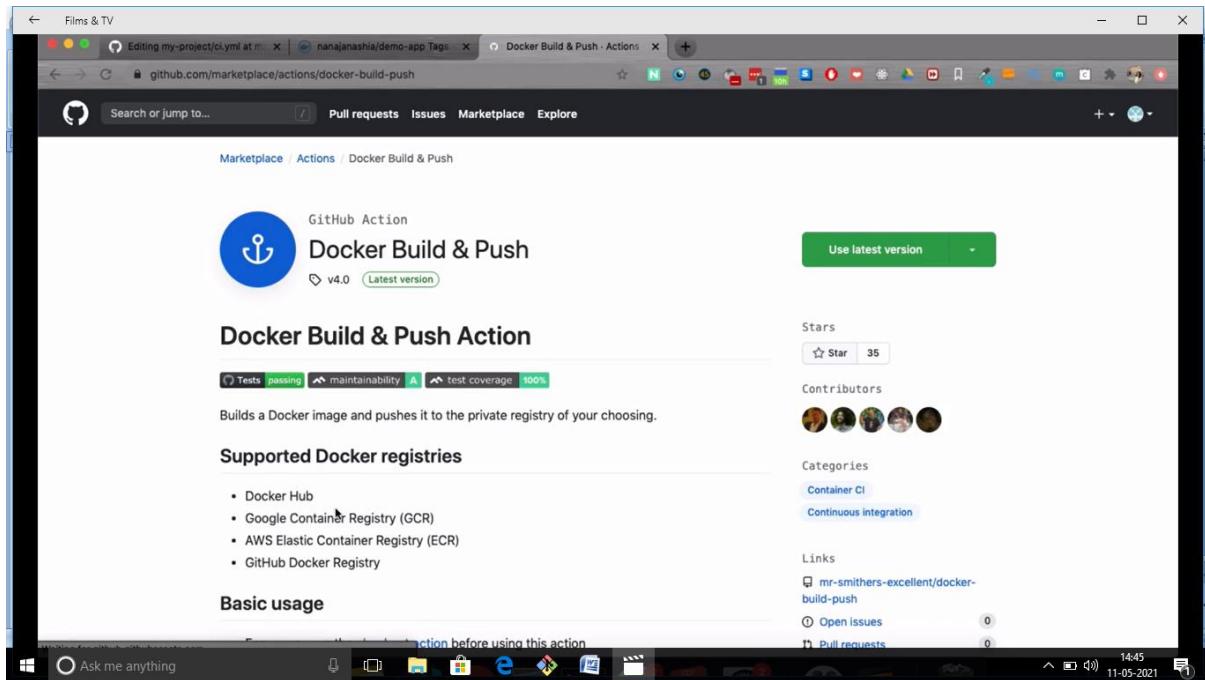
```
! build-test-app.yaml ●
10   strategy:
11     matrix:
12       | os: [ubuntu-latest, windows-latest, macOS-latest]
13
14   steps:
15     - uses: actions/checkout@v2
16
17     - name: Set up JDK 1.8
18       uses: actions/setup-java@v1
19       with:
20         java-version: 1.8
21
22     - name: Grant execute permission for gradlew
23       run: chmod +x gradlew
24
25     - name: Build with Gradle
26       run: ./gradlew build
27
28     - name: Build and Push Docker Image
29
30
31
32
33
34
35
36
37
```

```
! build-test-app.yaml ●
17   strategy:
18     matrix:
19       | os: [ubuntu-latest, windows-latest, macOS-latest]
20
21   steps:
22     - uses: actions/checkout@v2
23
24     - name: Set up JDK 1.8
25       uses: actions/setup-java@v1
26       with:
27         java-version: 1.8
28
29     - name: Grant execute permission for gradlew
30       run: chmod +x gradlew
31
32     - name: Build with Gradle
33       run: ./gradlew build
34
35     - name: Build and Push Docker Image
36       run: |
37         docker login cred
38         docker build ...
```

```
! build-test-app.yaml
20
21   steps:
22     - uses: actions/checkout@v2
23
24     - name: Set up JDK 1.8
25       uses: actions/setup-java@v1
26       with:
27         java-version: 1.8
28
29     - name: Grant execute permission for gradlew
30       run: chmod +x gradlew
31
32     - name: Build with Gradle
33       run: ./gradlew build
34
35     - name: Build and Push Docker Image
36       run: |
```

Docker is an open-source centralized platform designed to create, deploy, and run applications.

Docker is a centralized platform for packaging, deploying, and running applications. Before Docker, many users face the problem that a particular code is running in the developer's system but not in the user's system. So, the main reason to develop docker is to help developers to develop applications easily, ship them into containers, and can be deployed anywhere.



The screenshot shows a Windows desktop environment. A browser window is open, displaying the GitHub Marketplace documentation for the 'Docker Build & Push' action. The page includes a table defining variables like `imageFullName`, `imageName`, and `tag`. Below the table, sections for 'Docker Hub' and 'Google Container Registry (GCR)' provide examples and instructions for using secrets in workflows.

imageFullName	Full name of the Docker image with registry prefix and tag suffix	registry/owner/image:tag
imageName	Name of the Docker image with owner prefix	owner/image
tag	Tag for the Docker image	tag

Docker Hub

- Save your Docker Hub username (`DOCKER_USERNAME`) and password (`DOCKER_PASSWORD`) as secrets in your GitHub repo
- Modify sample below and include in your workflow `.github/workflows/*.yml` file

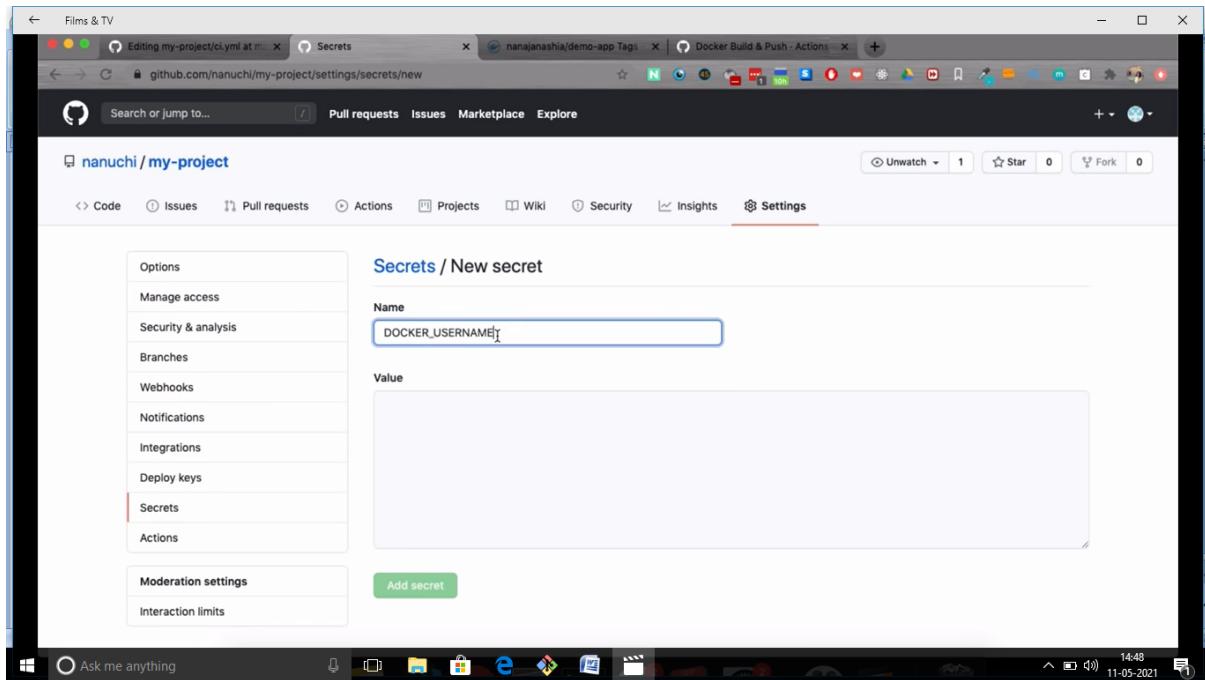
```
uses: mr-smithers-excellent/docker-build-push@v4
with:
  image: docker-hub-repo/image-name
  registry: docker.io
  username: ${{ secrets.DOCKER_USERNAME }}
  password: ${{ secrets.DOCKER_PASSWORD }}
```

Google Container Registry (GCR)

- Create a service account with the ability to push to GCR (see [configuring access control](#))
- Create and download JSON key for new service account
- Save content of `.json` file as a secret called `DOCKER_PASSWORD` in your GitHub repo
- Modify sample below and include in your workflow `.github/workflows/*.yml` file
- Ensure you set the username to `_json key`

The screenshot shows a Windows desktop environment with a code editor window open. The file is named `build-test-app.yaml`. The content of the file is a YAML configuration for a GitHub Action:

```
28 - name: Grant execute permission for gradlew
  29   run: chmod +x gradlew
  30
  31 - name: Build with Gradle
  32   run: ./gradlew build
  33
  34 - name: Build and Push Docker Image
  35   uses: mr-smithers-excellent/docker-build-push@v4
  36   with:
  37     image: nanajanashia/demo-app
  38     registry: docker.io
  39     username: ${{ secrets.DOCKER_USERNAME }}
  40     password: ${{ secrets.DOCKER_PASSWORD }}
```



```
5
6   on:
7     push:
8       branches: [ master ]
9     pull_request:
10      branches: [ master ]
11
12   jobs:
13     build-java:
14
15       runs-on: ubuntu-latest
16
17       steps:
18         - uses: actions/checkout@v2
19
20         - name: Set up JDK 1.8
21           uses: actions/setup-java@v1
22           with:
23             java-version: 1.8
24
25         - name: Grant execute permission for gradlew
26           run: chmod +x gradlew
27
28         - name: Build with Gradle
29           run: ./gradlew build
30
31         - name: Build and Push Docker Image
32           uses: mr-smithers-excellent/docker-build-push@v4
33           with:
34             image: nanajanashia/demo-app
35             registry: docker.io
36             username: ${{ secrets.DOCKER_USERNAME }}
37             password: ${{ secrets.DOCKER_PASSWORD }}
```