

NOVEMBER 5<sup>TH</sup>, 2022



365

Saturday



# Empowering Power Platform developers with GitHub

Raphael Pothin



THANKS TO OUR SPONSORS!

# Who am I?



- Microsoft Bizapps MVP
- Power Platform & DevOps Enthusiast



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# Agenda



GitHub



Power Platform ALM



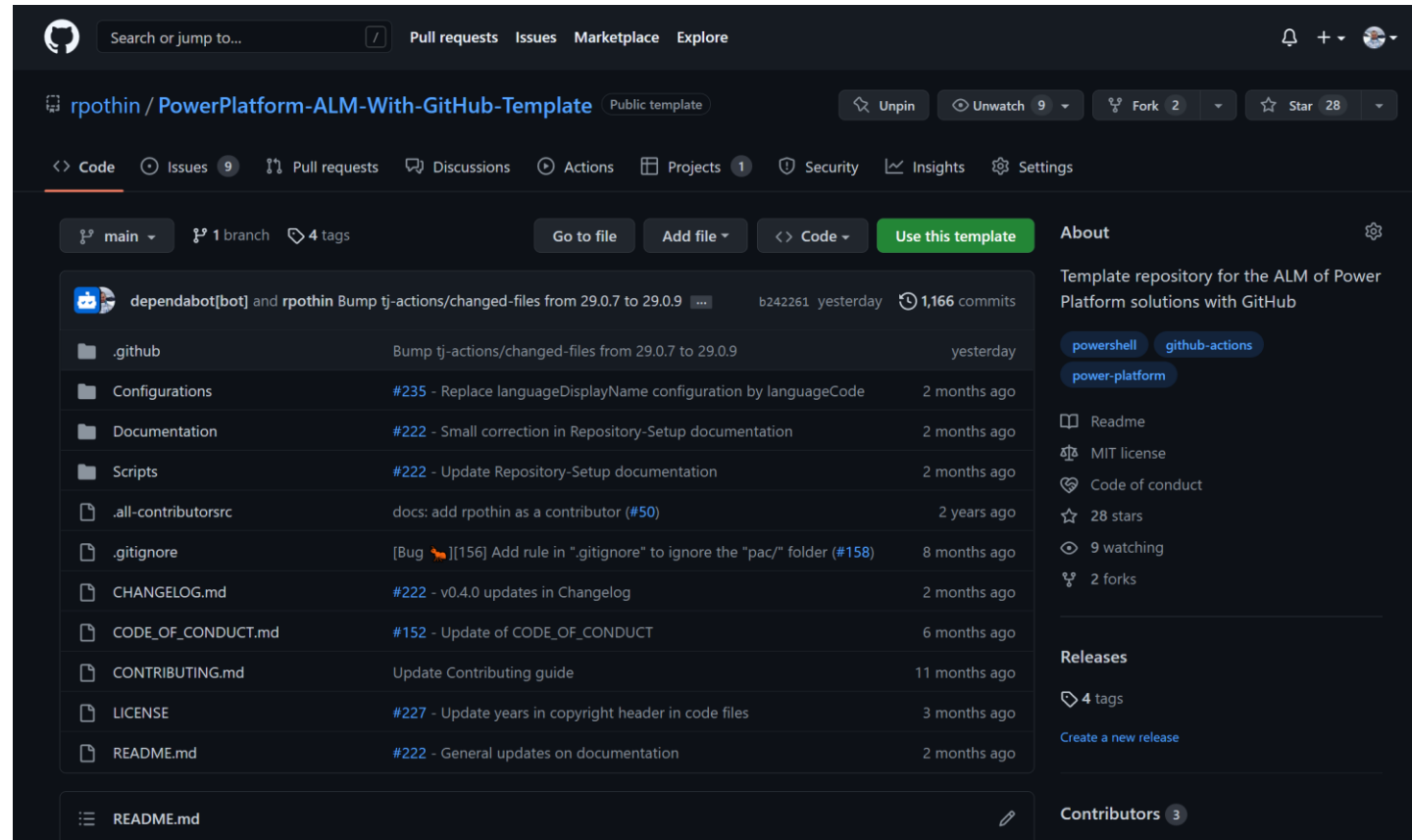
Coding time!

# GitHub

The basics



# Save configurations and code



# Organize work

PowerPlatform-ALM-With-GitHub-Template

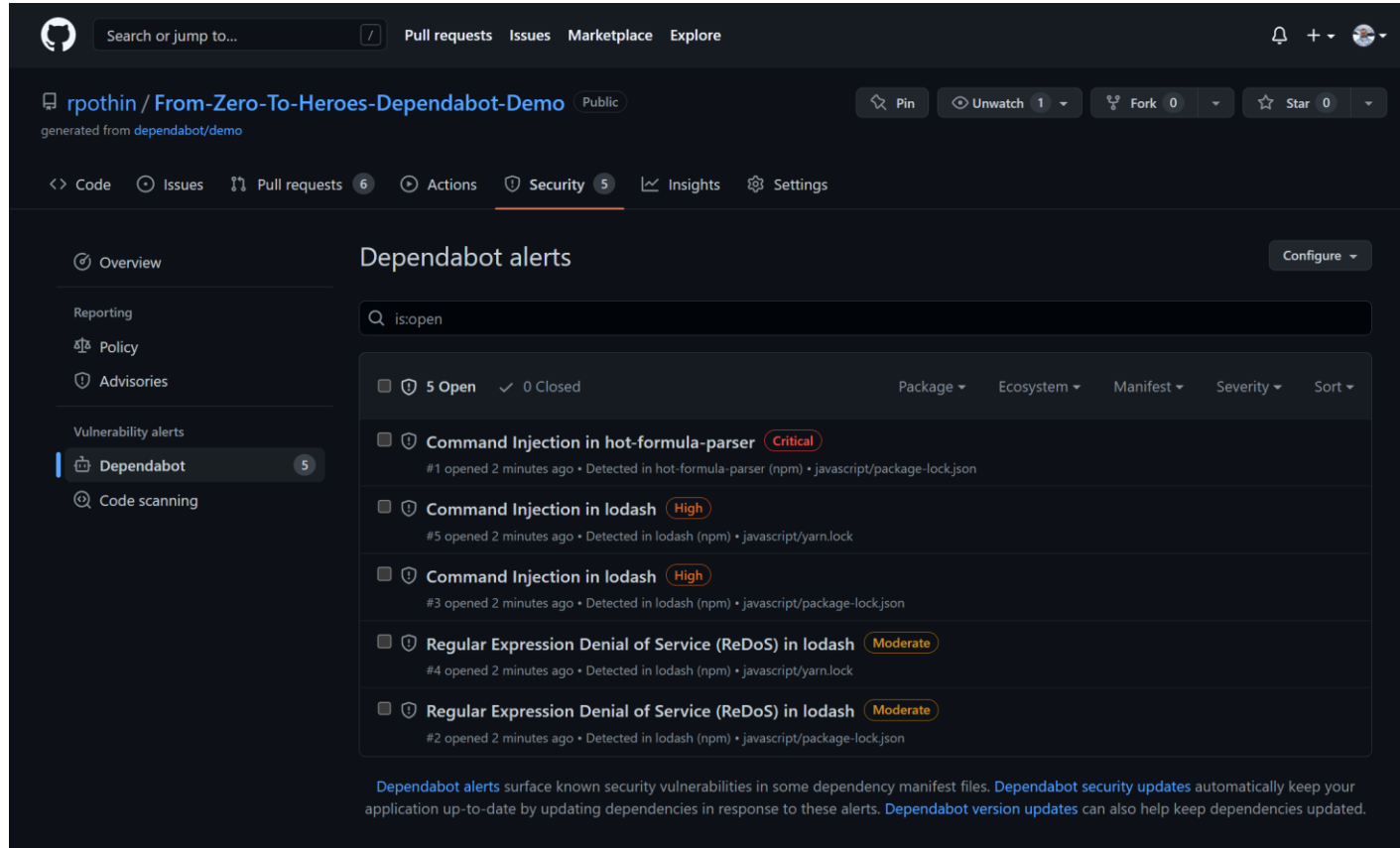
Work in current and upcoming Iterations / Milestones

Board

-iteration:<@current 20 X

Title	Labels	Status
0.5.0 Aug 10 - Sep 30 <b>Current</b>		
36 [Technical Debt 🛠️] Remove workarounds regarding unpack and pack of canvas apps #226	standby technical debt	Planned 📅
37 [Improvement 👍] Global configuration with default value to "false" for "force-overwrite" input of "import-solution" action #237	enhancement technical debt	Planned 📅
38 [Idea 💡] Add canvas apps testing management in GitHub workflows #245	enhancement	Planned 📅
+ Add item		
No Iteration 17		
39 [Idea 💡] Add a devcontainer to the repository to enable the usage of GitHub Codespaces		Not Yet Planned !?
40 [Idea 💡] Automate the generation of deployment settings files for the different environments during solution export if they don't		Not Yet Planned !?
41 [Idea 💡] Validation of the consistency of the schema of the deployment settings files during the pull request validation process		Not Yet Planned !?
42 [Idea 💡] Management of multiple solutions in a development cycle (issue to production)		Not Yet Planned !?
43 [Improvement 👍] Unit tests for PowerShell code using Pester		Not Yet Planned !?
44 [Improvement 👍] Tests of GitHub workflows using GitHub CLI in a GitHub workflow		Not Yet Planned !?
45 [Idea 💡] Update release candidate deployment process #201	enhancement exploration	Not Yet Planned !?

# Continuously improve quality & security



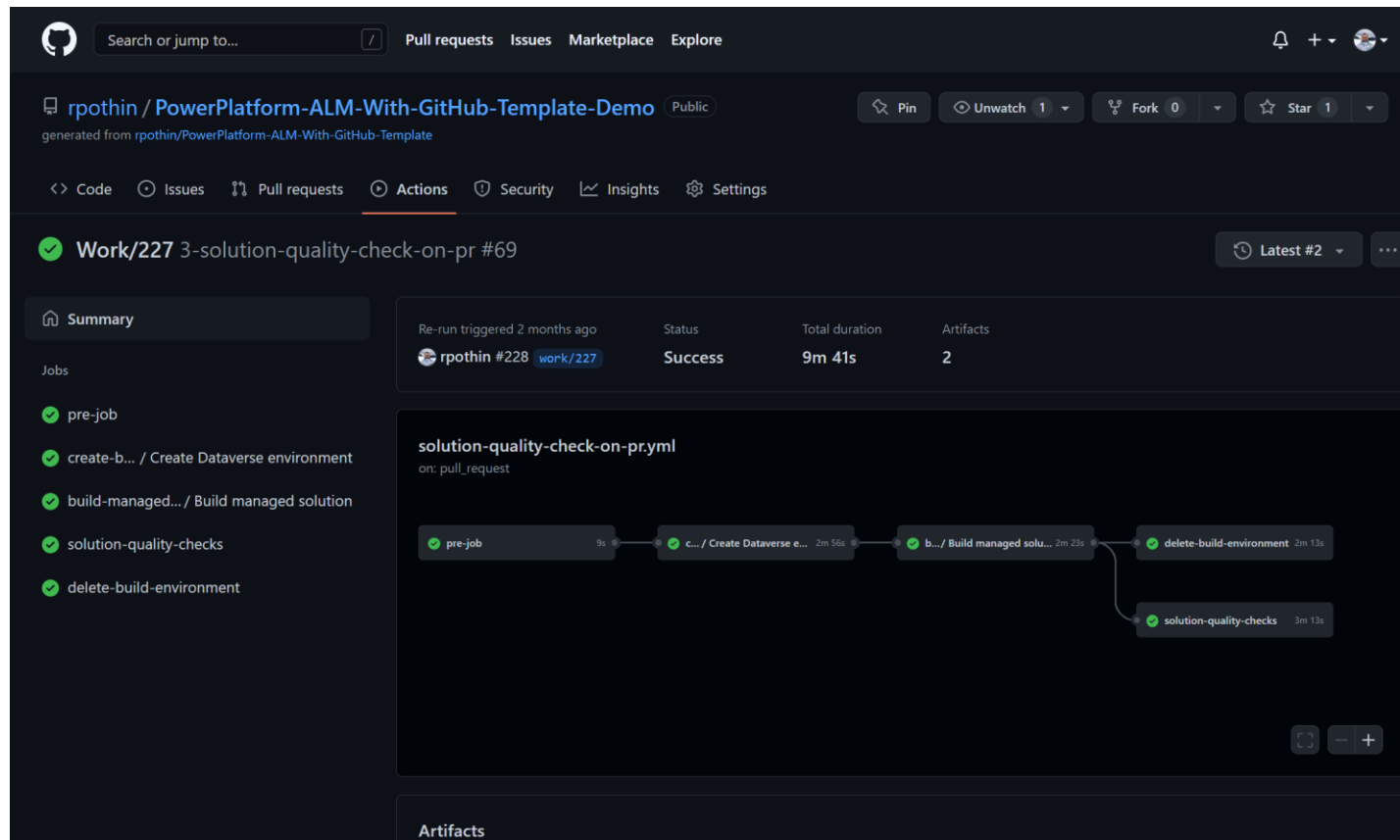
The screenshot shows the GitHub interface for the repository `rpothin / From-Zero-To-Heroes-Dependabot-Demo`. The **Security** tab is active, displaying **Dependabot alerts**. There are 5 open alerts and 0 closed alerts. The alerts are listed as follows:

Alert ID	Vulnerability	Severity	Detected in	Package	Manifest	Sort
#1	Command Injection in hot-formula-parser	Critical	Detected in hot-formula-parser (npm)	javascript/package-lock.json		
#5	Command Injection in lodash	High	Detected in lodash (npm)	javascript/yarn.lock		
#3	Command Injection in lodash	High	Detected in lodash (npm)	javascript/package-lock.json		
#4	Regular Expression Denial of Service (ReDoS) in lodash	Moderate	Detected in lodash (npm)	javascript/yarn.lock		
#2	Regular Expression Denial of Service (ReDoS) in lodash	Moderate	Detected in lodash (npm)	javascript/package-lock.json		

Dependabot alerts surface known security vulnerabilities in some dependency manifest files. Dependabot security updates automatically keep your application up-to-date by updating dependencies in response to these alerts. Dependabot version updates can also help keep dependencies updated.



# Automate everything



The screenshot shows the GitHub Actions interface for a repository named `rpothin / PowerPlatform-ALM-With-GitHub-Template-Demo`. The workflow `Work/227 3-solution-quality-check-on-pr #69` is displayed, showing a successful run triggered 2 months ago. The workflow consists of several jobs: `pre-job`, `create-b... / Create Dataverse environment`, `build-managed... / Build managed solution`, `solution-quality-checks`, and `delete-build-environment`. The `solution-quality-checks` job is highlighted, showing a detailed view of the workflow steps and their durations.

**Summary**

Re-run triggered	Status	Total duration	Artifacts
rpothin #228 work/227	Success	9m 41s	2

**Jobs**

- pre-job
- create-b... / Create Dataverse environment
- build-managed... / Build managed solution
- solution-quality-checks
- delete-build-environment

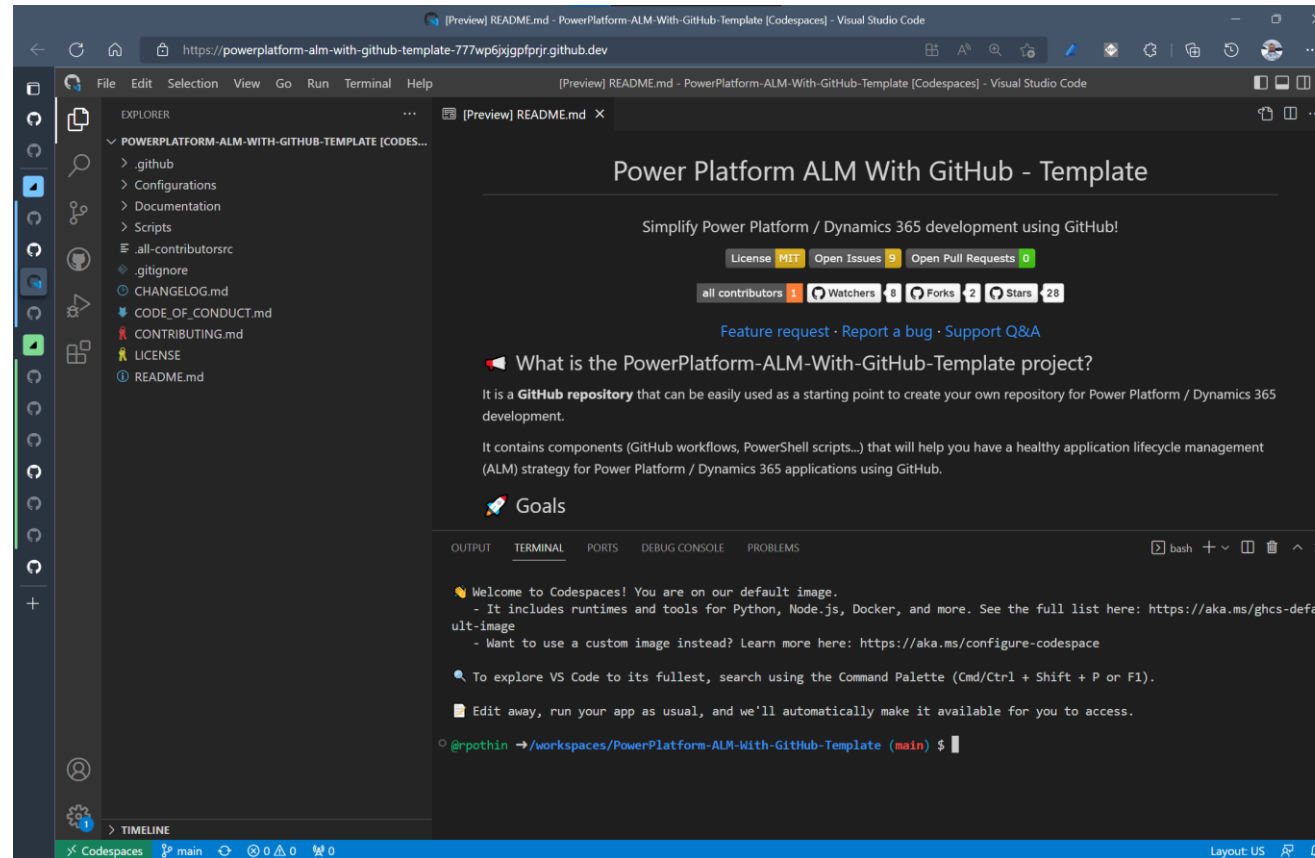
**solution-quality-check-on-pr.yml**  
on: pull\_request

```

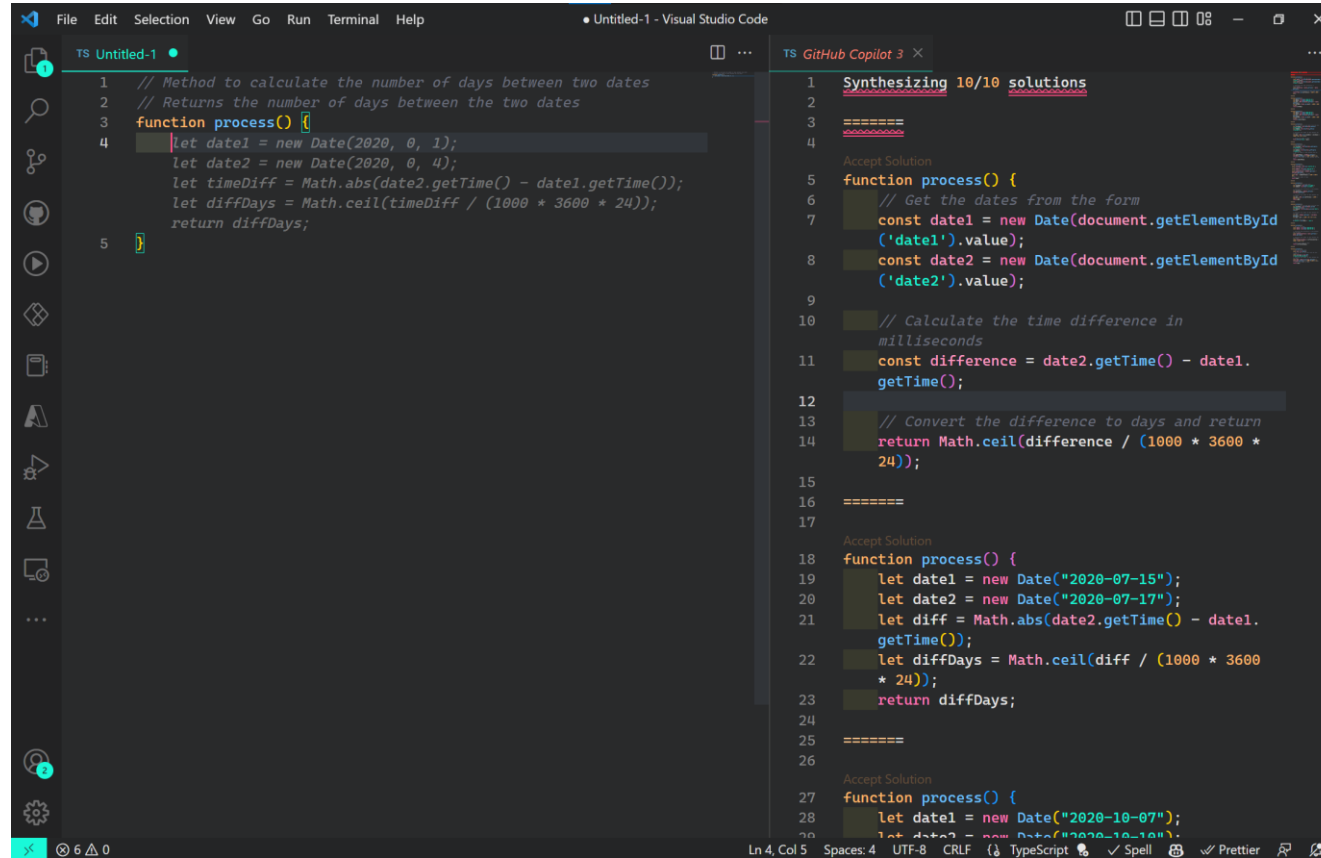
graph LR
    A[pre-job 9s] --> B[c... / Create Dataverse e... 2m 56s]
    B --> C[b... / Build managed solu... 2m 23s]
    C --> D[delete-build-environment 2m 13s]
    C --> E[solution-quality-checks 3m 13s]
  
```

**Artifacts**

# Cloud developer environment



# AI pair programmer



The screenshot shows the Visual Studio Code interface with two files open. The left file, 'TS Untitled-1', contains a TypeScript function named 'process' that calculates the number of days between two dates. The right file, 'TS GitHub Copilot 3', shows the same function being generated by the AI, with comments indicating the steps: 'Synthesizing 10/10 solutions', 'Accept Solution', and 'function process() { ... }'.

```

1 // Method to calculate the number of days between two dates
2 // Returns the number of days between the two dates
3 function process() {
4   let date1 = new Date(2020, 0, 1);
5   let date2 = new Date(2020, 0, 4);
6   let timeDiff = Math.abs(date2.getTime() - date1.getTime());
7   let diffDays = Math.ceil(timeDiff / (1000 * 3600 * 24));
8   return diffDays;
9 }

```

```

1 Synthesizing 10/10 solutions
2
3 =====
4
5 Accept Solution
6 function process() {
7   // Get the dates from the form
8   const date1 = new Date(document.getElementById('date1').value);
9   const date2 = new Date(document.getElementById('date2').value);
10
11   // Calculate the time difference in milliseconds
12   const difference = date2.getTime() - date1.getTime();
13
14   // Convert the difference to days and return
15   return Math.ceil(difference / (1000 * 3600 * 24));
16 }
17
18 =====
19
20 Accept Solution
21 function process() {
22   let date1 = new Date("2020-07-15");
23   let date2 = new Date("2020-07-17");
24   let diff = Math.abs(date2.getTime() - date1.getTime());
25   let diffDays = Math.ceil(diff / (1000 * 3600 * 24));
26   return diffDays;
27 }
28
29 =====
30
31 Accept Solution
32 function process() {
33   let date1 = new Date("2020-10-07");
34   let date2 = new Date("2020-10-10");
35   let diff = Math.abs(date2.getTime() - date1.getTime());
36   let diffDays = Math.ceil(diff / (1000 * 3600 * 24));
37   return diffDays;
38 }

```

# | Power Platform ALM

What you need to know to get  
the best out of GitHub

# Power Platform CLI

```
● ● ●  
  
# Solution export  
pac solution export --path c:\Users\Documents\Solution.zip --name SampleComponentSolution --managed true --include general  
  
# Solution unpack  
pac solution unpack --zipfile C:\SampleSolution.zip --folder .\SampleSolutionUnpacked\  
  
# Create settings  
pac solution create-settings --solution-zip C:\SampleSolution.zip --settings-file .\SampleDeploymentSettingsDev.json
```

# Power Platform GitHub actions

The screenshot shows the GitHub repository page for `microsoft/powerplatform-actions`. The repository is public and has 25 unwatchers, 43 forks, and 112 stars. The main navigation bar includes links for Code, Issues (2), Pull requests (1), Discussions, Actions, Security, and Insights. A prominent banner at the top encourages users to "Use this GitHub Action with your project" and provides a "View on Marketplace" button. Below the banner, the repository structure is listed, showing folders like `.azure-pipelines`, `.github/workflows`, `.vscode`, and various action folders. The right sidebar contains an "About" section describing the repository's purpose: automating build and deployment tasks for Power Platform. It also lists metadata such as the README, MIT license, Code of conduct, 112 stars, 25 watchers, and 43 forks. At the bottom, there is a "Releases" section with 24 releases.

Search or jump to... / Pull requests Issues Marketplace Explore

microsoft / powerplatform-actions Public

Unwatch 25 Fork 43 Starred 112

<> Code Issues 2 Pull requests 1 Discussions Actions Security Insights

Use this GitHub Action with your project  
Add this Action to an existing workflow or create a new one. View on Marketplace

main 9 branches 29 tags

Go to file Add file <> Code

Commit history: davidjenni and david@DAVID-PC update to latest pac CLI 1.18.4; update data expo... 4ab5c26 6 days ago 206 commits

File	Description	Time
.azure-pipelines	Add SBOM generation task (#157)	9 months ago
.github/workflows	August refresh, pac CLI 1.18.x	8 days ago
.vscode	add publish solution customizations action (#26)	2 years ago
add-solution-component	Add solution component action initial release (#233)	23 days ago
backup-environment	Deprecate usage of targetVersion parameter for export-solution and cl...	5 months ago
branch-solution	branch-solution action option to allow clobbering the target branch i...	2 years ago
build	add 3rd party notices and post-processing script (#160)	9 months ago
check-solution	check-solution: adopt cli-wrapper with artifactstore	4 months ago
clone-solution	Deprecate usage of targetVersion parameter for export-solution and cl...	5 months ago
copy-environment	add sovereign cloud authentication support	6 months ago
create-environment	July refresh	last month

About

Power Platform GitHub Actions automate common build and deployment tasks related to Power Platform. This includes synchronization of solution metadata (a.k.a. solutions) between development environments and source control, generating build artifacts, deploying to downstream environments, provisioning/de-provisioning of environments, and the abil...

github-actions powerplatform

Readme MIT license Code of conduct 112 stars 25 watching 43 forks

Releases 24



# Coding time!

 A new issue has been assigned to you!



# Questions?





Thank you!