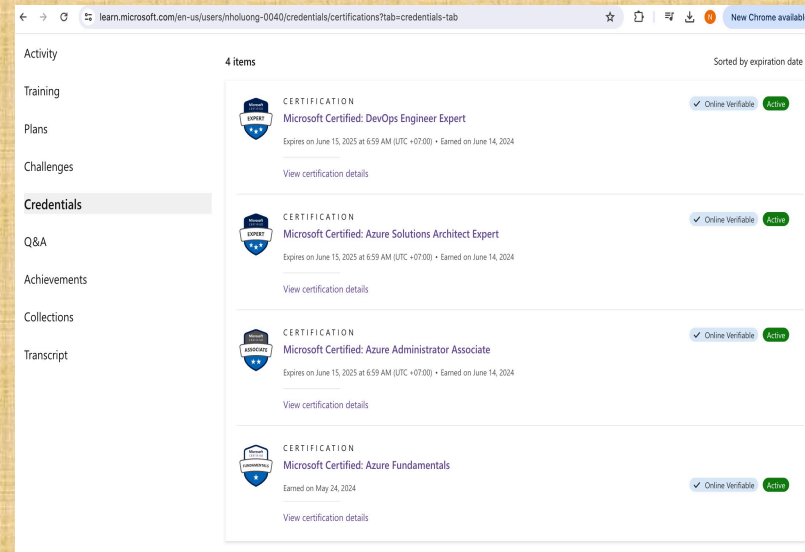
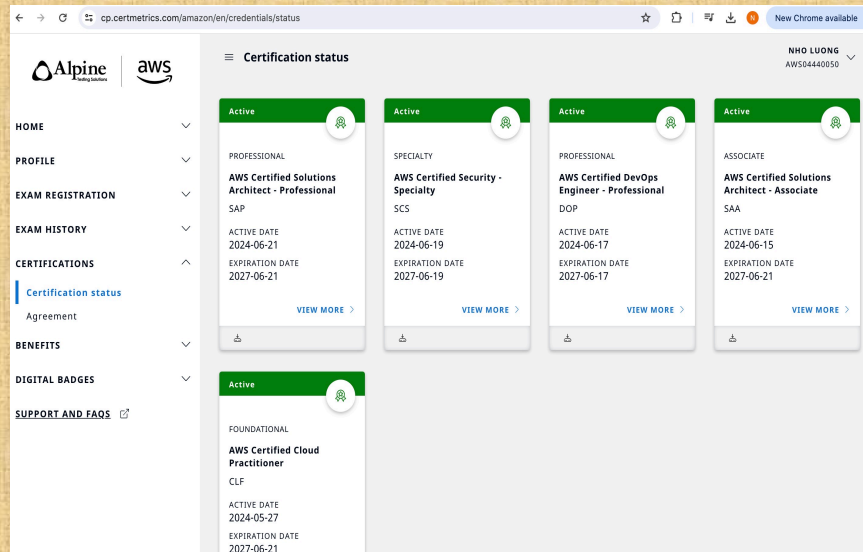


# Azure DevOps Release Notes

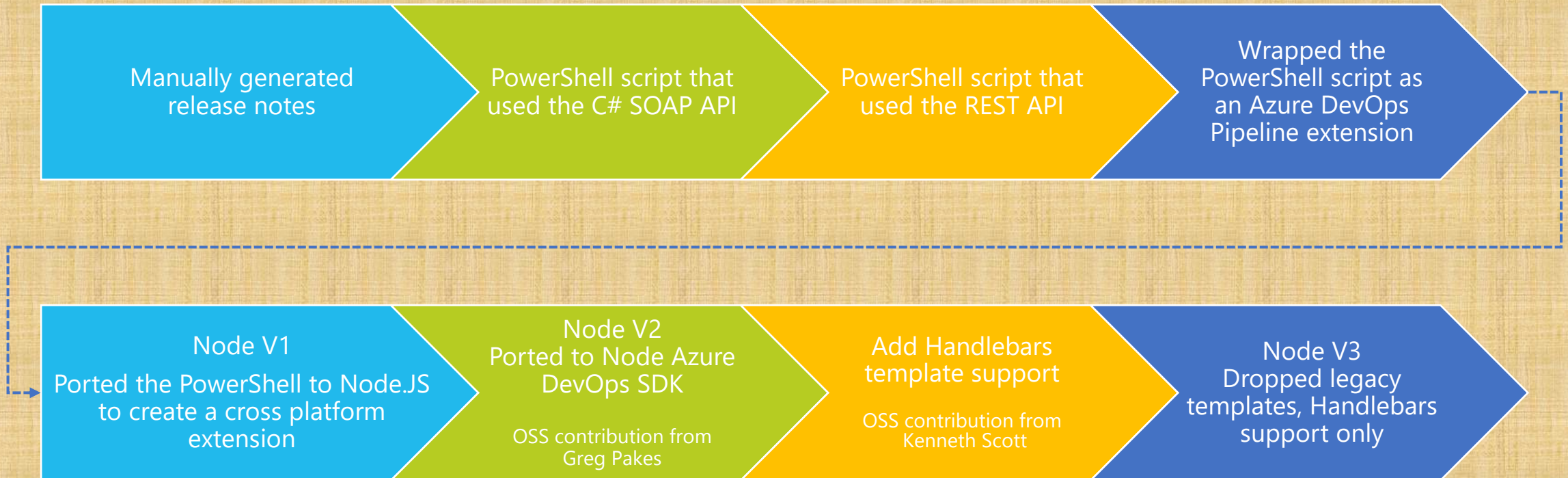
Author: Nho Luong

Skill: DevOps Engineer Lead



# When all else fails, read the instructions

# My Azure DevOps release notes journey



# So information is looked up?

- Get the Build or Associated Builds (for Classic Releases)
- Find the last good build/release (using a variety of mechanisms)
- Get Work Items references associated between the builds
- Get Commits/Changeset associated between the builds
- Get Test run results associated between the builds (and directly associated with a Classic Release)

...

# So information is available?

...

- Expand any truncated Commit Messages
- Remove duplicate Commits/Changesets
- Remove duplicate Work Items references
- Get full details of Work Items
- Get Parent and Child Work Items
- Get Associated Pull Requests



# Objects available to the template

## Common objects

- workItems
- relatedWorkItems
- commits
- pullRequests
- inDirectlyAssociatedPullRequests
- tests
- builds

## Build objects

Available for Classic UI based Builds and YAML based pipelines

- buildDetails
- compareBuildDetails
- currentStage

## Release objects

Only available in a Classic UI based Releases

- releaseDetails
- compareReleaseDetails
- releaseTests

# A Handlebars Template

```
## Build {{buildDetails.buildNumber}}
* **Branch**: {{buildDetails.sourceBranch}}
* **Completed**: {{buildDetails.finishTime}}
* **Previous Build**: {{compareBuildDetails.buildNumber}}

## Associated Pull Requests ({{pullRequests.length}})
{{#foreach pullRequests}}
* **[{{this.pullRequestId}}]({{replace (replace this.url "_apis/git/repositories" "_git")
                                     "pullRequests" "pullRequest"}})} ** {{this.title}}

  * Associated Work Items
  {{#foreach this.associatedWorkitems}}
    {{#with (lookup_a_work_item ../../relatedWorkItems this.url)}}
      - [{{this.id}}]({{replace this.url "_apis/wit/workItems" "_workitems/edit"}})
      - {{lookup this.fields 'System.Title'}}
    {{/with}}
  {{/foreach}}

  * Associated Commits (this includes commits on the PR source branch not associated directly with the build)
  {{#foreach this.associatedCommits}}
    - [{{this.commitId}}]({{this.remoteUrl}}) - {{this.comment}}
  {{/foreach}}
{{/foreach}}
```

# Handlebars is Extensible

- The task include 120+extensions from 'Handlebars Helpers'  
<https://github.com/nholuongut/handlebars-helpers>
- Plus a few I have added
  - **json** that will dump the contents of any object. This is useful when working out what can be displayed in a template
  - **lookup\_a\_work\_item** this looks up a work item in the global array of work items based on a work item relations URL
  - **lookup\_a\_pullrequest** this looks up a pull request item in the global array of pull requests based on a work item relations URL
  - **get\_only\_message\_firstline** this gets just the first line of a multi-line commit message



# Handlebars is Extensible

You can write your own extensions

```
module.exports = {  
  get_only_message_firstline (msg) {  
    return msg.split(`\n`)[0]; }  
};
```

And use them like this

```
{{ get_only_message_firstline this.message }}
```

# Running the task

```
- task: XplatGenerateReleaseNotes@3
  displayName: 'Generate release notes markdown file'
  inputs:
    outputfile: '$(Build.ArtifactStagingDirectory)\Changes_$(GitVersion.FullSemVer).md'
    templateLocation: 'File'
    templatefile: '$(Build.SourcesDirectory)\BuildReleaseNotes.md'
    dumpPayloadToConsole: false
    dumpPayloadToFile: false
    replaceFile: true
    getParentsAndChildren: false
    getAllParents: False
```

But what do you do with the  
generated release notes?

# There are many options

- Attach them as build artifacts
- Save them to a known file location/UNC Share
- Use a task to email them to someone
- Upload to a WIKI

# Upload a file to a Git based Wiki

```
- task: richardfennellBM.BM-VSTS-WIKIUpdater-Tasks.WikiUpdaterTask.WikiUpdaterTask@1
  displayName: 'Git based WIKI Updater'
  inputs:
    repo: 'https://nholuongut@dev.azure.com/nholuongut/GitHub/_git/GitHub.wiki'
    filename: 'Product-X/$(GitVersion.FullSemVer).md'
    dataIsFile: true
    sourceFile: '$(Build.ArtifactStagingDirectory)\Changes_$(GitVersion.FullSemVer).md'
    message: 'Update from Build'
    gitname: builduser
    gitemail: 'build@demo'
    useAgentToken: true
    user: nholuongut
```



But I want my release notes in an  
immutable format

# Export the Wiki as a PDF

An Azure DevOps Extension that wrappers Max Melcher's AzureDevOps.WikiPDFExport command line tool

<https://github.com/nholuongut/azure-devops-wiki-pdf-export>

```
- task: nholuongut.BM-VSTS-WikiPDFExport-Tasks.WikiPDFExportTask.WikiPdfExportTask@1
  displayName: 'Export Azure DevOps WIKI without downloading tool'
  inputs:
    cloneRepo: true
    overrideExePath: '$(System.DefaultWorkingDirectory)/tools/azuredevops-export-wiki.exe'
    repo: 'https://dev.azure.com/nholuongut/GitHub/_git/GitHub.wiki'
    useAgentToken: true
    outputFile: '$(Build.ArtifactStagingDirectory)\PDF\Azrepo-nodownload.pdf'
```



# So how do I use these tools?

- Within my CI build stage on the main branch
  - Generate release notes for that build
  - Include the changes since the last successful build on the current branch
  - Attach the markdown file as a build artifact
- Within my CD release stage
  - Generate release notes for that release
  - Include the changes since the last successful release to that stage
  - Upload the markdown file to a WIKI

# Summary

- You have most of the information you need to generate release notes in your work tracking system
- Good use of tools allow you to present this information easily to the people who need it.
- Automation is your friend for consistent delivery



# Resources

- Cross Platform Release Notes Extension

<https://marketplace.visualstudio.com/items?itemName=richardfennellBM.BM-VSTS-XplatGenerateReleaseNotes>

- WIKI Uploader Extension

<https://marketplace.visualstudio.com/items?itemName=richardfennellBM.BM-VSTS-WIKIUpdater-Tasks>

- WIKI PDF Export Extension

<https://marketplace.visualstudio.com/items?itemName=richardfennellBM.BM-VSTS-WikiPDFExport-Tasks>

- My Azure DevOps Pipeline Extensions Source Code & WIKI

<https://github.com/rfennell/AzurePipelines>

- Extra usage documentation

<https://blogs.blackmarble.co.uk/rfennell/2020/09/15/how-can-i-automatically-create-azure-devops-release-notes-and-how-can-i-publish-them/>



# Thank You