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Migrating 1 TFVC Repo to 668 Git Repos

WinOps 2019

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Migrating 1 TFVC Repo to 668 Git Repos

- ① Why?
- ② How to investigate a TFVC repo
- ③ Migration planning

Why?

And what are our options?

Why

In early 2019 a client contacted us for help migrating from TFS 2013 to
Azure DevOps



Initial Investigation

- Source control
- Builds
- Work Items
- Test Plans
- SharePoint
- SSRS and SSIS reporting



Initial Investigation

- Source control
- Builds
- Work Items
- Test Plans
- SharePoint
- SSRS and SSIS reporting



Why move to Azure DevOps

- The client wanted to take advantage of Pipelines
- The client liked the advantages of SaaS
 - New Features released regularly
 - Wouldn't end up on an out of date platform again



Why move to Azure DevOps

- The client already had an active organisation in Azure DevOps
 - The client didn't want to have 2 separate organisations
- The client wanted to preserve as much source control history as possible
- The client wanted to reset their work item templates



What are the options to migrate

- Upgrade to Azure DevOps Server 2019 then use the Azure DevOps migration tool
 - Must be in a new organisation for each TFS collection database



What are the options to migrate

- Use something like OpsHub
 - Will rewrite TFVC history



What are the options to migrate

- Use a “Tip” migration
 - Lose all history
 - Recreating branches could get messy



What are the options to migrate

- Upgrade to Azure DevOps Server 2019 and use the Git import tool
 - Only supports 180 days of history
 - Only a single branch is migrated



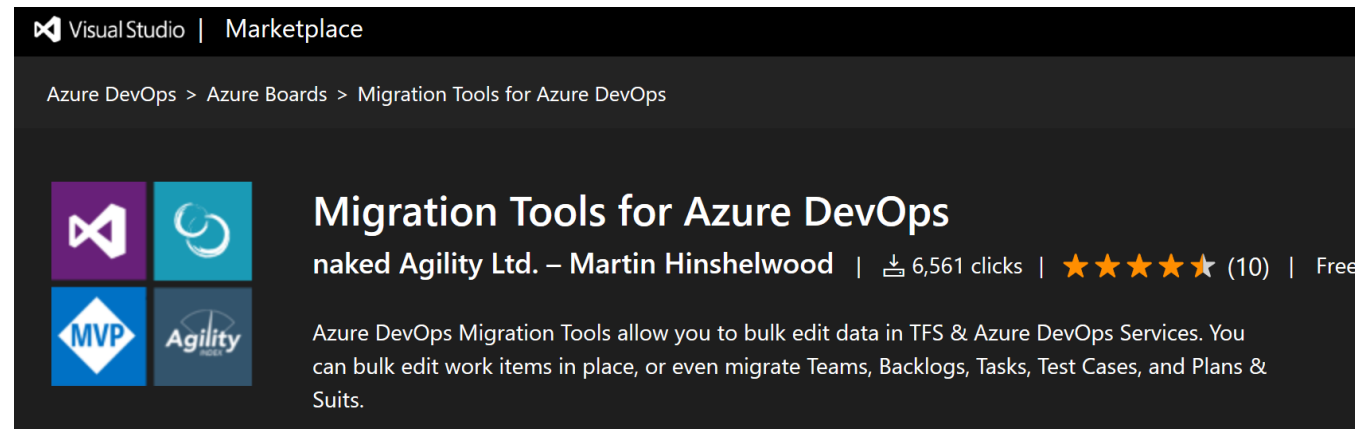
What are the options to migrate

- Use Git-TFS to migrate all of the history to Git
 - There probably will be issues



Work item migration

For work item migrations use Martin Hinshelwood's Migration tools for Azure DevOps



<https://marketplace.visualstudio.com/items?itemName=nkdagility.vsts-sync-migration>



How to investigate a TFVC repo

How to investigate a TFVC repository

Talk to the Developers



Issues?

- Code just in a folder not under a branch
 - Git-TFS won't migrate this
- What's happened in the past in the TFVC repo
 - Renamed or deleted and recreated branches
 - Baseless merges
 - Branching hierarchy changes
 - Branches converted to folders
 - Duplicate names



DEMO

Migration planning

Migration planning

Do a dry run



Migration Planning

Create an implementation plan



Implementation Plan

Stage	Action	Responsible	Timings	Notes
Pre-Migration				
	Detach collection and take full backup	Client	30 mins	
	Re-attach collection	Client	10 mins	
	Fix broken and missing branches	DOG	30 mins	
	Clone Repositories	DOG	6 hours	
	Validate clone	DOG	2 hours	
	Address duplicate repos	DOG	30 mins	Some repos have duplicate names, these will be processed manually
	Address issues	DOG / Client	2 hours	
	Prepare work items for migration	DOG	1 hour	
			12 hours 40 mins	
Cutover	Final check in to TFS	Client	1 hour	Must be a checkin not Shelveset
	Detach collection and take full backup	Client	30 mins	
	Re-attach collection	Client	10 mins	
	Make TFS read only	Client	10 mins	
			1 hour 50 mins	
Migration	Pull repos to bring across latest code	DOG	2 hours	
	Change Origin and push repos	DOG	1 hour	
	Change Origin and push repos for duplicated repos	DOG	10 mins	
	Validate that repos have been pushed	DOG / Client	30 mins	
	Migrate work items	DOG	2 hours	
	Validate work items	DOG / Client	30 mins	
			3 hours 40 mins	Work items can be migrated in parallel to Code
Post Migration	Devs start to use Azure DevOps	Client		
	DOG to provide post implementation support	DOG	1 day	



DEMO

Wrap up

- We wanted to migrate to Azure DevOps
 - But the Database import method wasn't suitable
- You need to make sure you understand how the TFVC repo is structured
 - Talk to the Developers and poke around
 - PowerShell is your friend
- Do a dry run to understand the issues and plan your migration



Wrap up

Git is great, but getting there can be painful!



Questions