PR Status Tool

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Introduction

What is a PR

- Pull request(PR) contains code level changes implemented in the local environment of the user, for fixing bugs across many versions of CRM application
- These changes need to be pushed to Server for the fix to be effective in the application

What are the current challenges

- If the Build of the PR doesn’t succeed then the changes do not get pushed. Hence they need to be monitored regularly and steps need to be taken if they fail or expire.
- This process manually takes a long time and decreases the efficiency of the workforce. Hence there arises a need for automated tool to perform this task

Overview

How the tool works

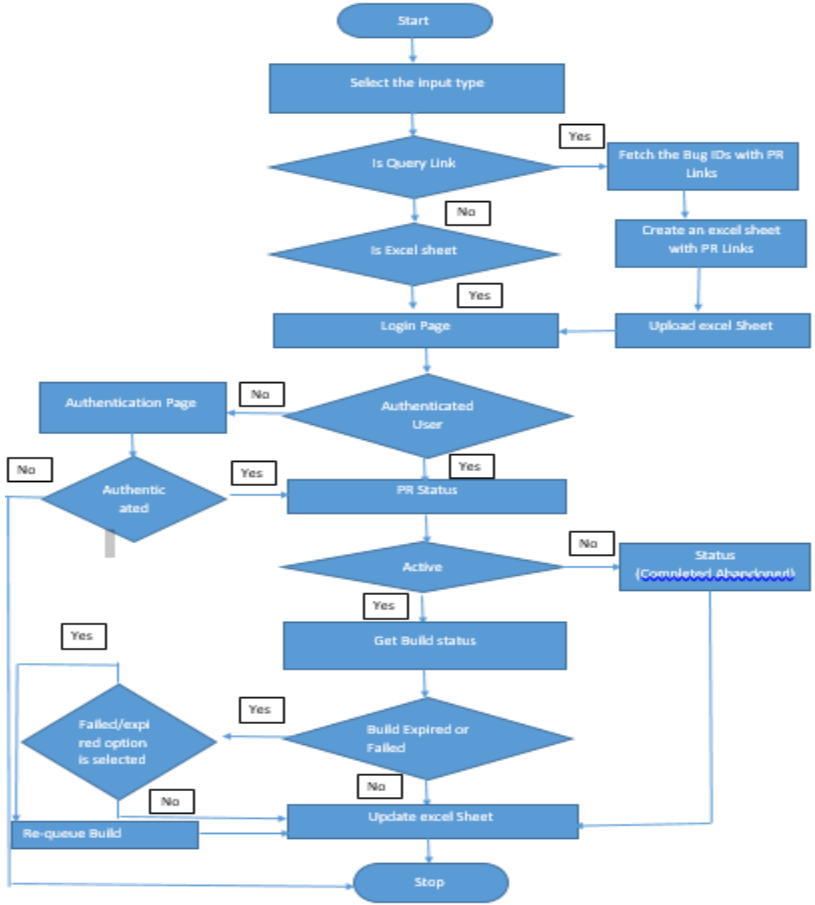
- The PR Status tool is created to automate the process of getting the PR status and build status from the pull requests and update the excel sheets accordingly
- This tool performs two major tasks i.e. getting the build status of the PR given in the input and re-queuing the build if it has expired or failed.
- This tool takes input in two ways. One is in the form of excel sheets with predefined schema, containing PR URLs. And other is TFS Query Link.
- If user enters query link, tool creates a new excel sheet with BugIds and corresponding PR Links of that particular query link. For the PR status, the newly created excel file needs to get uploaded in tool.
- On Completion the tool updates the input file by appending the build status against each PR.
- This tool provides Re-queue Build options(failed/expired) for user to select. The build failed/expired PR gets re-queued based on the options selected. If none of the options is selected, then PR does not get re-queued but only the status will be updated.

Business Benefits

Advantages of using the tool along with effort and time savings

- Average time taken for Manual checking of status in TFS
- PR Status = 2 minutes
- Re-queue the failed build = 3 minutes
- If a bulk port is having 100 PRs then the average effort taken by the FTE = 100 * 2.5 minutes = 4.2 person hours
- PR Status tool will be able to do the same in less than one minute for a PR
- This tool is capable of Re-queueing the bugs
- This tool gives the status of the build against each PR thus by simplifies the status reporting.

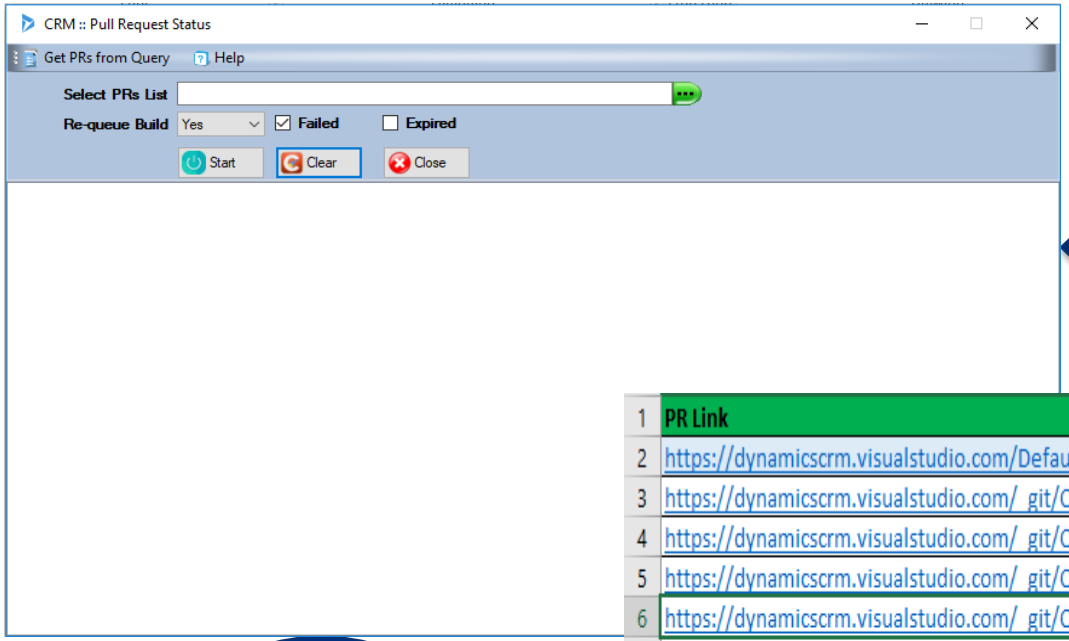
Workflow diagram



Expected PR status:

- Build succeeded
- Build failed
- Build expired
- Build in progress
- Build did not run

Tool Demo



User Interface

	PR Link	Status
2	https://dynamicscrm.visualstudio.com/DefaultCollection/_git/CRM/pullrequest/125565?_a=overview	
3	https://dynamicscrm.visualstudio.com/_git/CRM/pullrequest/125504?_a=overview	
4	https://dynamicscrm.visualstudio.com/_git/CRM/pullrequest/132924?_a=overview	
5	https://dynamicscrm.visualstudio.com/_git/CRM/pullrequest/125565?_a=overview	
6	https://dynamicscrm.visualstudio.com/_git/CRM/pullrequest/63757?_a=overview	
7	https://dynamicscrm.visualstudio.com/_git/CRM/pullrequest/145414?_a=overview	
8	https://dynamicscrm.visualstudio.com/DefaultCollection/_git/CRM/pullrequest/140620?_a=overview	
9	https://dynamicscrm.visualstudio.com/DefaultCollection/_git/CRM/pullrequest/140699?_a=overview	
10	https://dynamicscrm.visualstudio.com/DefaultCollection/_git/CRM/pullrequest/140697?_a=overview	
11	https://dynamicscrm.visualstudio.com/DefaultCollection/_git/CRM/pullrequest/144255?_a=overview	
12	https://dynamicscrm.visualstudio.com/DefaultCollection/_git/CRM/pullrequest/140545?_a=overview	

User Input(Excel file)

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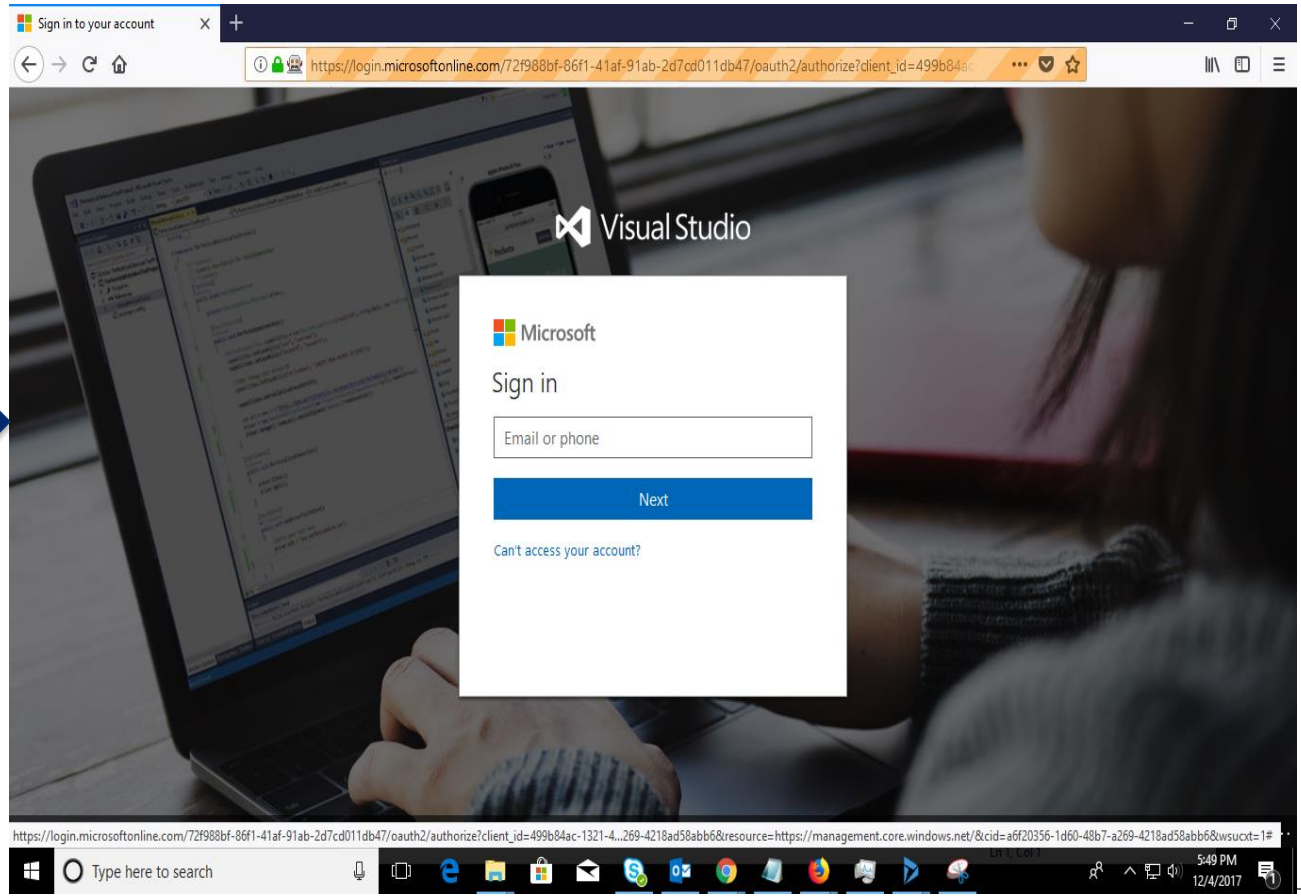
Possible Login page even the user is logged in previously.



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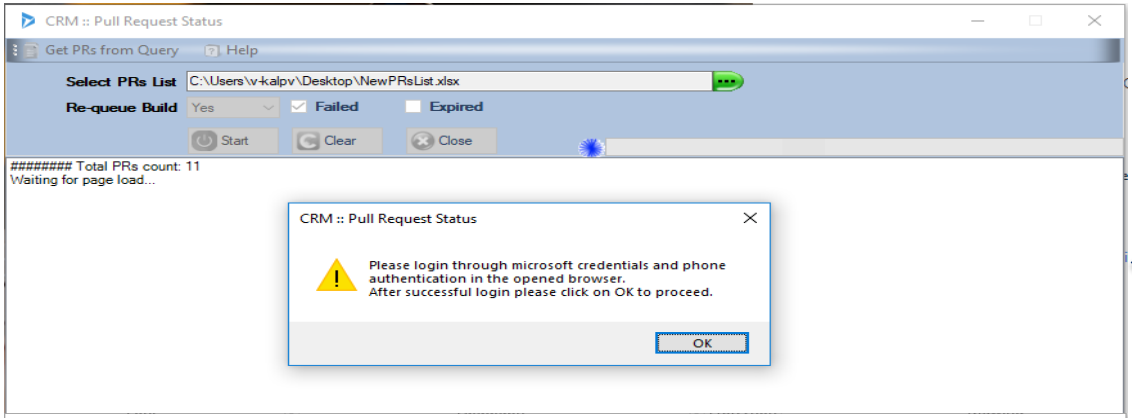
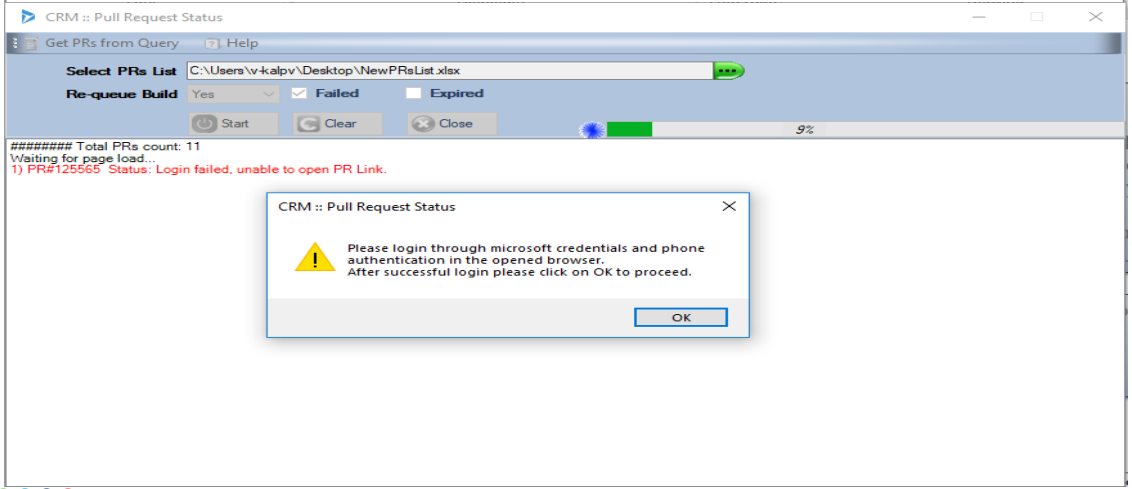


As the login browser opens , the user gets notification in the tool .User has to press the OK button only after logging into TFS successfully for the process to continue.



If the user continuing with the tool without logged in

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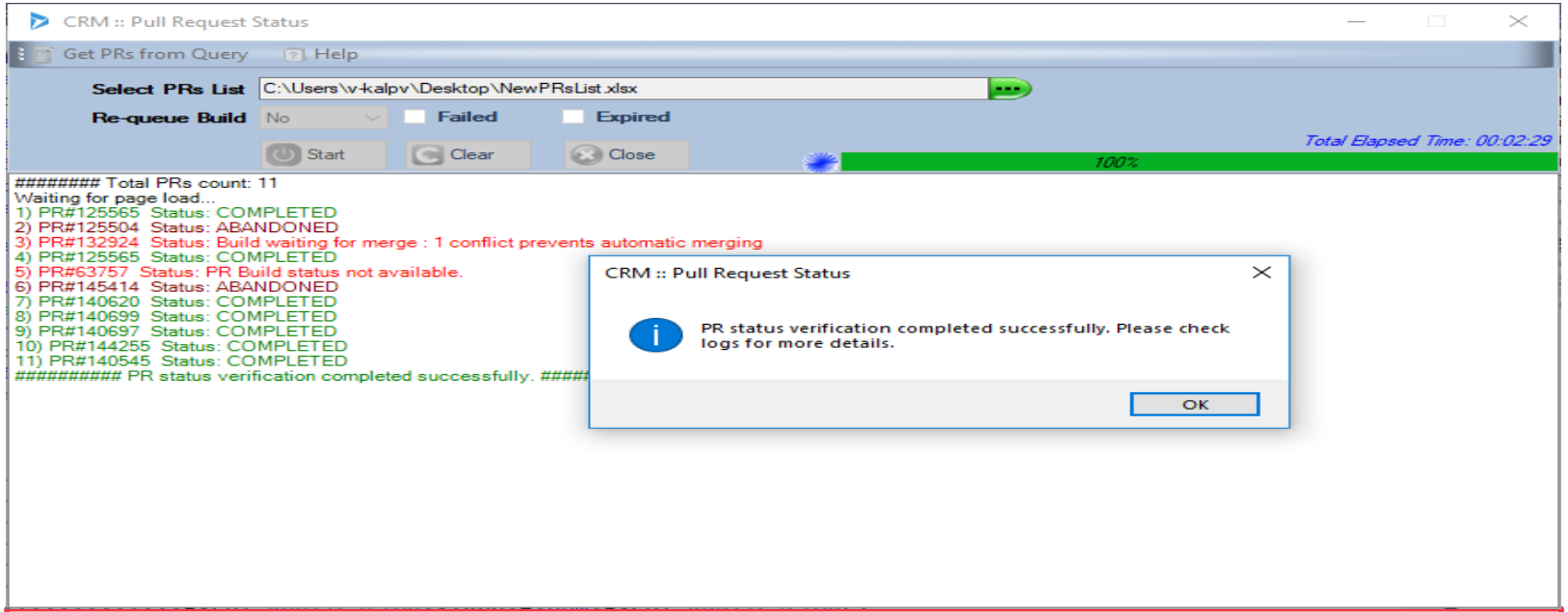

- From the pull request in TFS, the PR status and the build status are retrieved.
- Based on the Re-queue Build options(failed/expired) checked in the tool, build failed or expired PRs get re-queued.
- If both the options are unchecked then the Status is simply reflected in the tool.

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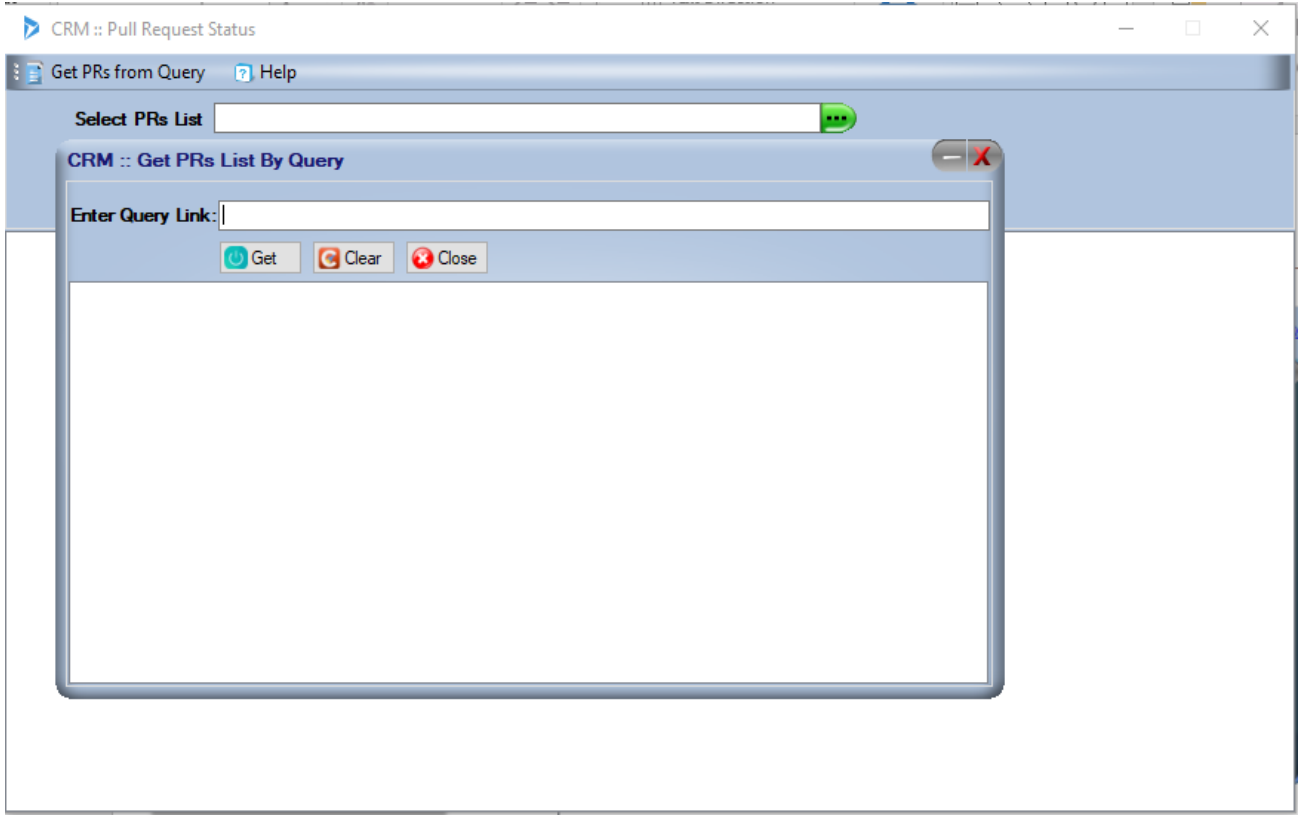
User can extract PR URLs from TFS Query Link

If User Input is Query Link



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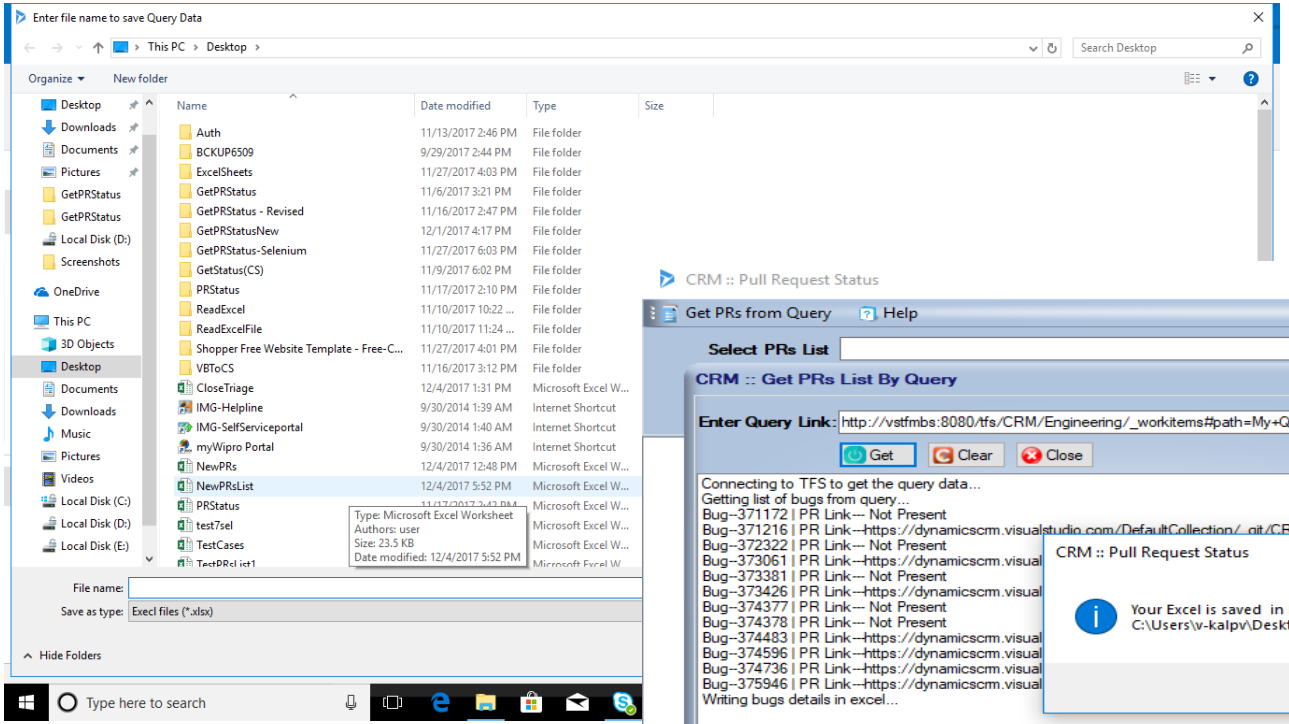
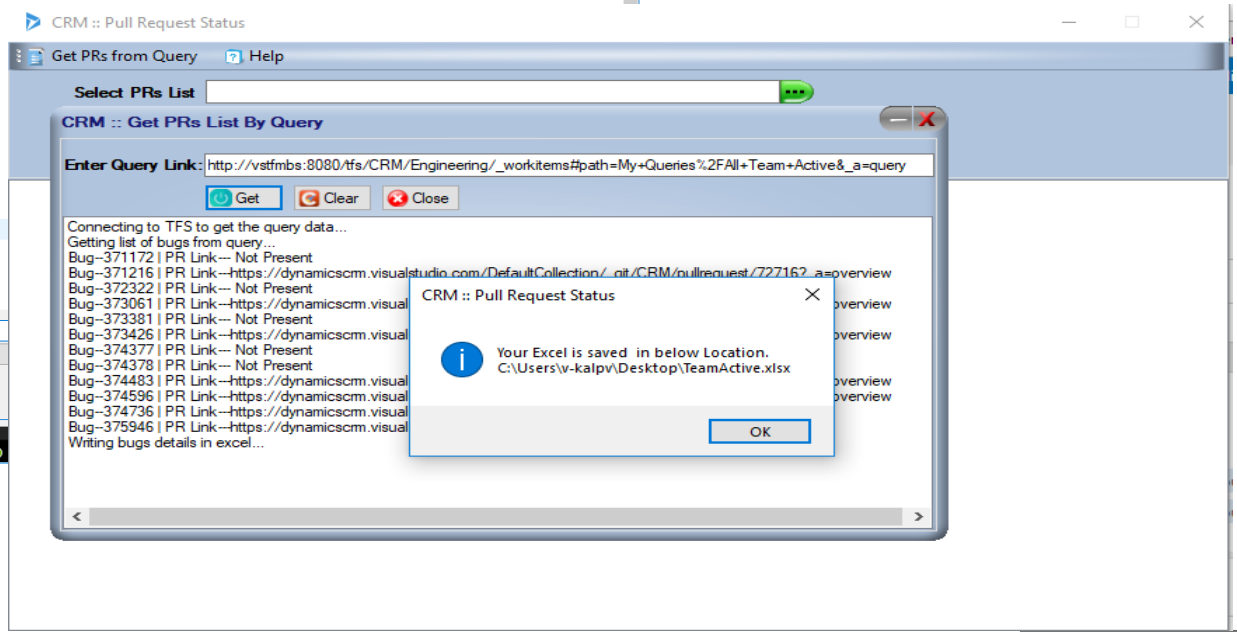


The PR URLs extracted from TFS link saved as excel file.



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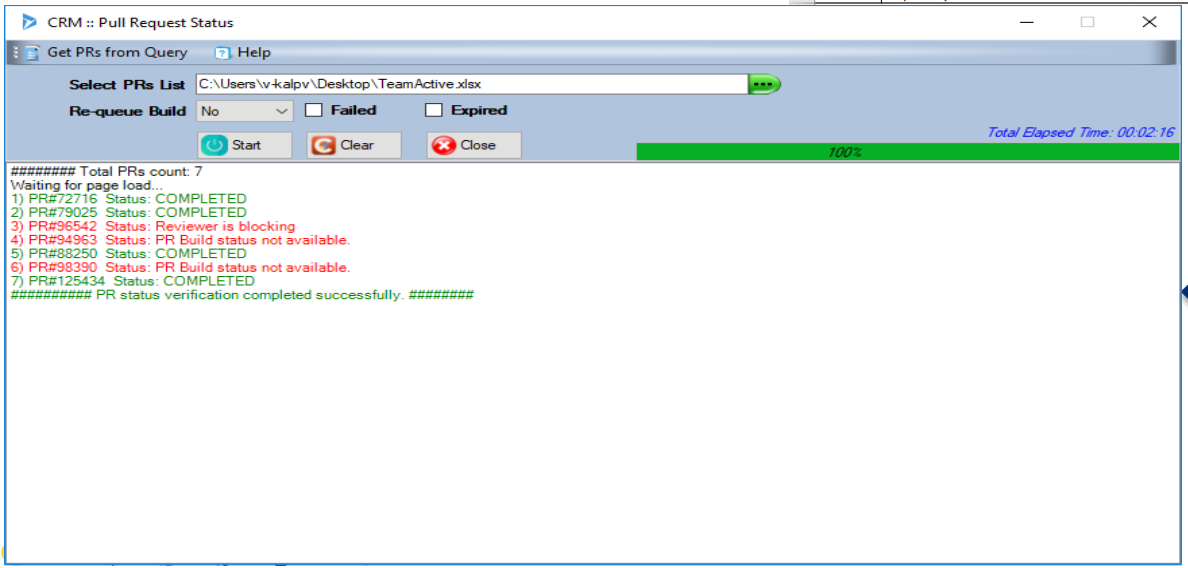
The excel file created

	BugId	PR Link	Status
2	371172		
3	371216	https://dynamicscrm.visualstudio.com/DefaultCollection/_git/CRM/pullrequest/72716?_a=overview	
4	372322		
5	373061	https://dynamicscrm.visualstudio.com/DefaultCollection/_git/CRM/pullrequest/79025?_a=overview	
6	373381		
7	373426	https://dynamicscrm.visualstudio.com/DefaultCollection/_git/CRM/pullrequest/96542?_a=overview	
8	374377		
9	374378		
10	374483	https://dynamicscrm.visualstudio.com/DefaultCollection/_git/CRM/pullrequest/94963?_a=overview	
11	374596	https://dynamicscrm.visualstudio.com/DefaultCollection/_git/CRM/pullrequest/88250?_a=overview	
12	374736	https://dynamicscrm.visualstudio.com/_git/CRM/pullrequest/98390?_a=overview	
13	375744	https://dynamicscrm.visualstudio.com/DefaultCollection/_git/CRM/pullrequest/99021?_a=overview	
14	375946	https://dynamicscrm.visualstudio.com/_git/CRM/pullrequest/125434?_a=overview	
15	377295	https://dynamicscrm.visualstudio.com/DefaultCollection/_git/CRM/pullrequest/131002	



The PR status after uploaded the excel file in the tool

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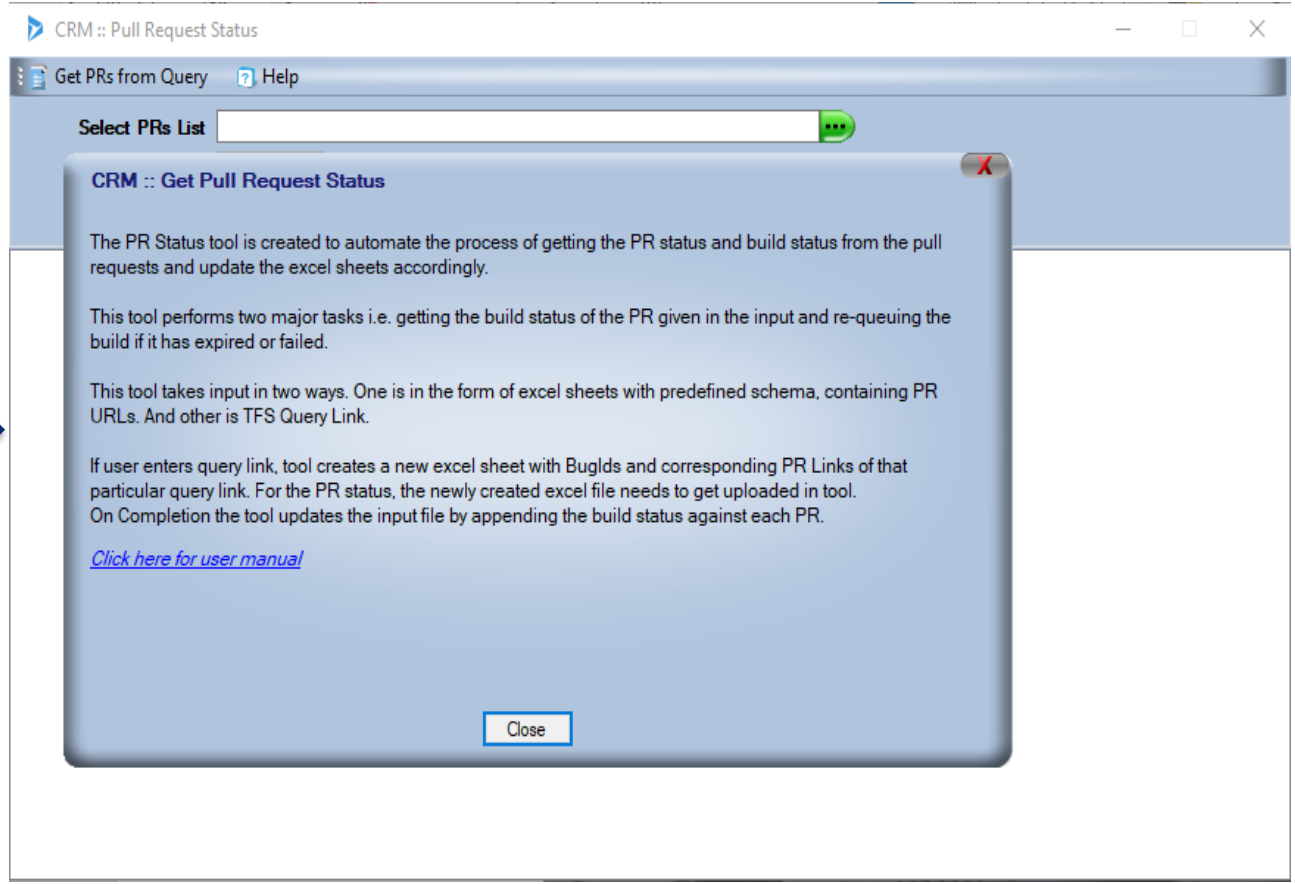
User can understand the tool functionality with “Help” option in the tool



Limitations

Constraints and Limitations of the current version of the tool

- The Input has to be in a predefined format.(Excel sheet should contain BugID, PRLink and Status columns)
- Fire fox browser should be installed on end user machine
- Cross browser support functionality in progress.

Next Steps

Plans for the consecutive versions

- Currently the tool relies on the client side TFS. So we are working to get the data from the server side for more accuracy.
- We are using some predefined libraries and REST APIs to make the process more efficient and accurate.
- Currently the tool supports Firefox browser only. But with a small change in code it can be compatible to any browser. We are working on the UI level implementation of this.

Summary

About the tool in a nutshell

- Helps the FTE in getting the status of the PR and the re-queue the failed builds in an effective manner
- It reduces the effort in checking the status of the PR
- With the help of Selenium, the tool is now compatible with any required browser.
- Currently the tool relies on the client side TFS and we are working to get the data from the server side for more accuracy.
- We are using some predefined libraries and REST APIs to make the process more efficient and accurate.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