Lab for Module 7 Developing and Collaborating in Visual Studio

Using Visual Studio to Branch, Edit and Commit, Fetch/Pull/Push, and Pull Requests

Hands on Lab

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Overview

In this lab you will continue with the repositories you created in the previous labs. But, now you will do this all in the Visual Studio IDE.

Prerequisites

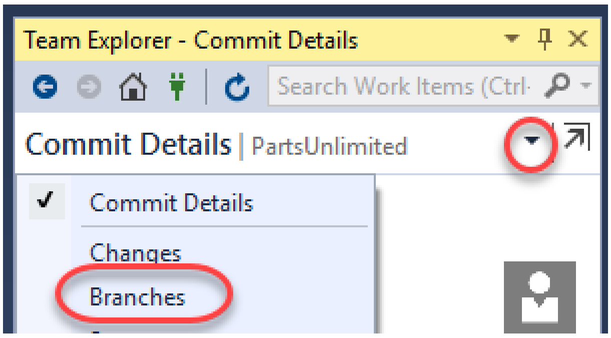
1. Module 5 Branching and Merging
2. Visual Studio 2017/2019
3. You have Visual Studio connected to your AzureDevOps project and you have the ProjectsUnlimited.sln open from your local repository.

Exercise 1: Managing Branches in Visual Studio

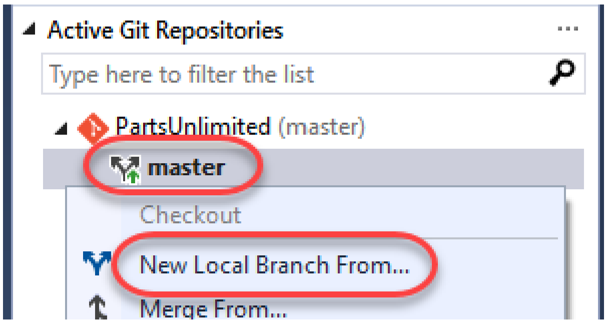
You can manage the work in your local and remote Git repositories from the **Branches** view in Team Explorer. Git keeps track of which branch you are working on and makes sure that when you checkout a branch your files match the most recent commit on the branch. Branches let you work with multiple versions of the source code in the same local Git repository at the same time and share those branches with your team.

Task 1: Creating a new branch in your local repository using Visual Studio.

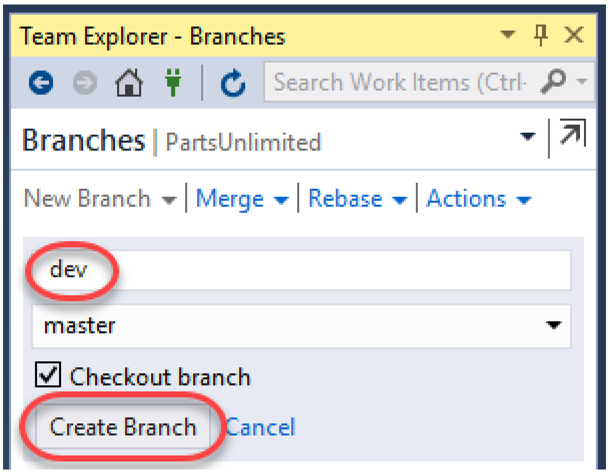
1. From the **Team Explorer** dropdown, select **Branches**


Team Explorer - Commit Details
Search Work Items (Ctrl-
Commit Details | PartsUnlimited
✓ Commit Details
Changes
Branches

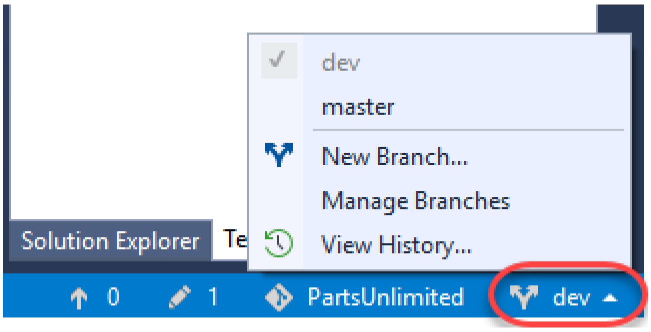
2. There is only one local branch at this time, which is **master**. Right-click it and select **New Local Branch From** to create a new one.



3. For the purpose of a lab, name the new branch **"dev"** and click **Create Branch**. Usually, your team will come up with a convention such as features/yourname or alias. Other patterns are /features/workitemid or users/username or alias. Try to come up with a pattern and remain consistent. If you choose a different name for the branch remember it so you can replace it whenever we reference the **dev** branch.

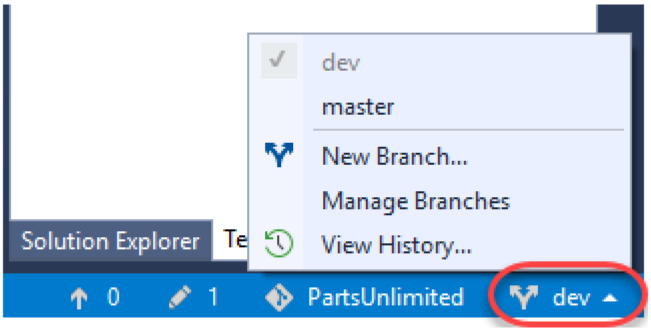


4. Note that you can always see what branch you're working on in the bottom right corner of Visual Studio in the status bar. You can also easily switch between branches, create new ones, and manage them all from the status bar.

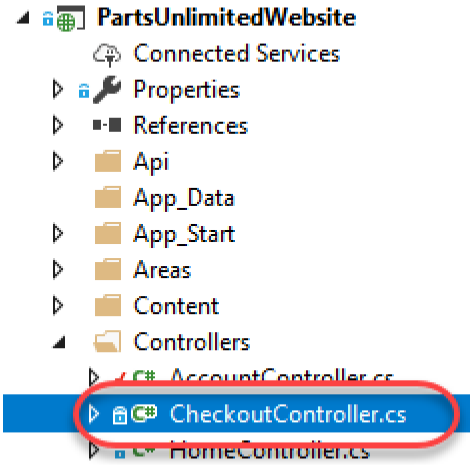


Task 2: Checking out and publishing branches

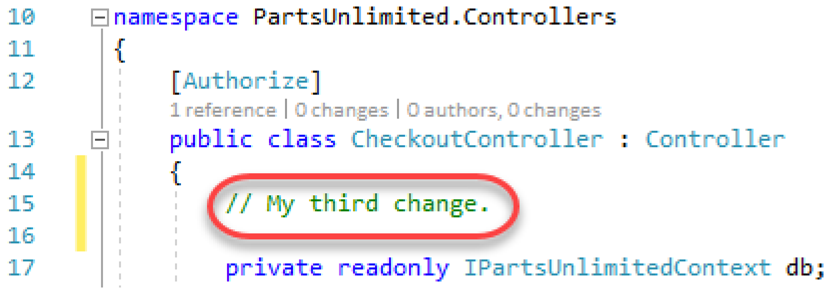
1. In **Team Explorer** click on the branches icon from the status bar and select the **dev** branch to switch to it if you are not already working on the **dev** branch.



2. Make sure you have the PartsUnlimited solution open. Under the PartsUnlimited.sln PartsUnlimitedWebsite/Controllers folder open **CheckoutController.cs**.



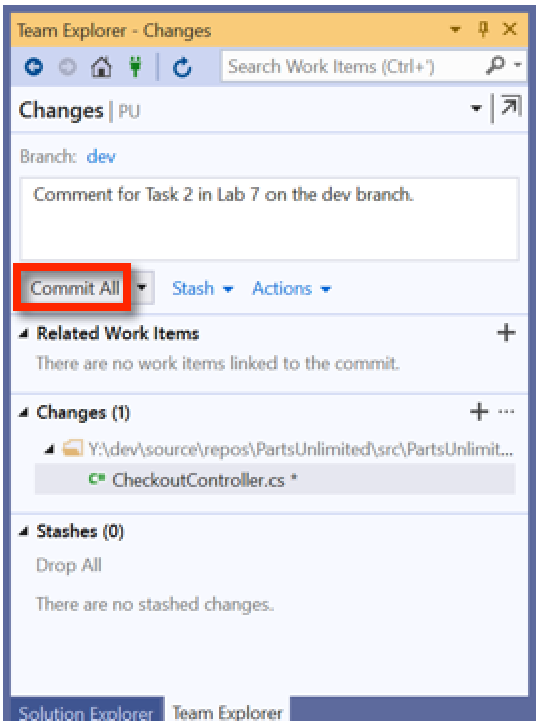
4. Make a comment **//** somewhere in the file as shown.



```
namespace PartsUnlimited.Controllers
{
    [Authorize]
    public class CheckoutController : Controller
    {
        // My third change.

        private readonly IPartsUnlimitedContext db;
```

5. Save the file and commit your changes with a message from the Changes view.



Team Explorer - Changes

Search Work Items (Ctrl+')

Changes | PU

Branch: dev

Comment for Task 2 in Lab 7 on the dev branch.

Commit All | Stash | Actions

Related Work Items

There are no work items linked to the commit.

Changes (1)

Y:\dev\source\repos\PartsUnlimited\src\PartsUnlimit...

CheckoutController.cs *

Stashes (0)

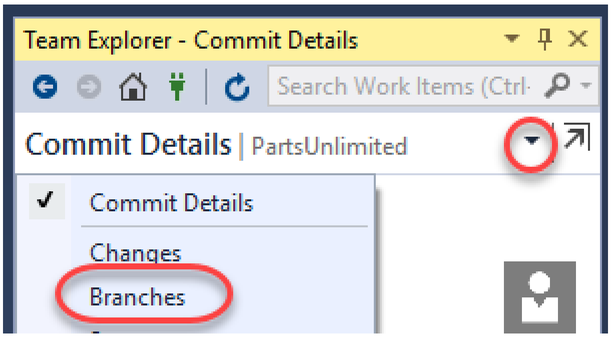
Drop All

There are no stashed changes.

Solution Explorer | Team Explorer

Your changes are committed locally.

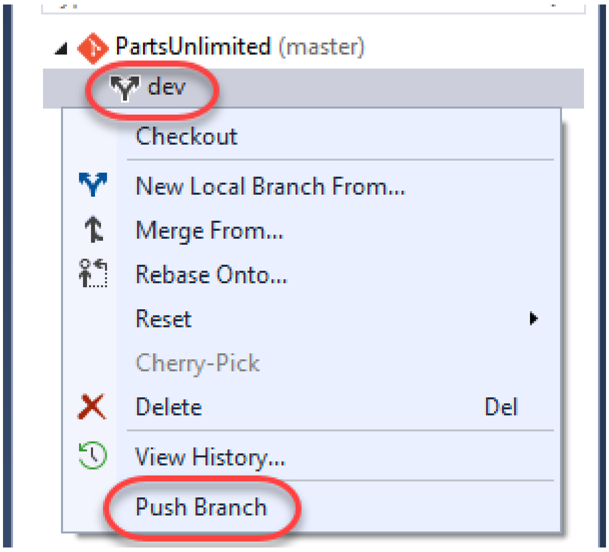
2. Switch to the Branches view, right-click the **dev** branch and select **Push Branch**. This will share the branch with your team.



Team Explorer - Commit Details

Search Work Items (Ctrl-

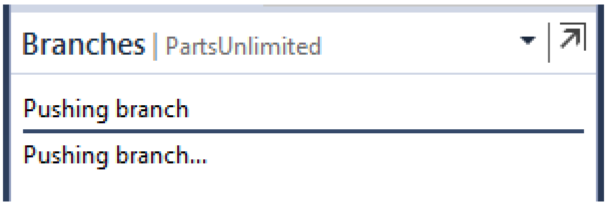
Commit Details | PartsUnlimited



PartsUnlimited (master)

dev

3. It may take a moment for the branch push to succeed

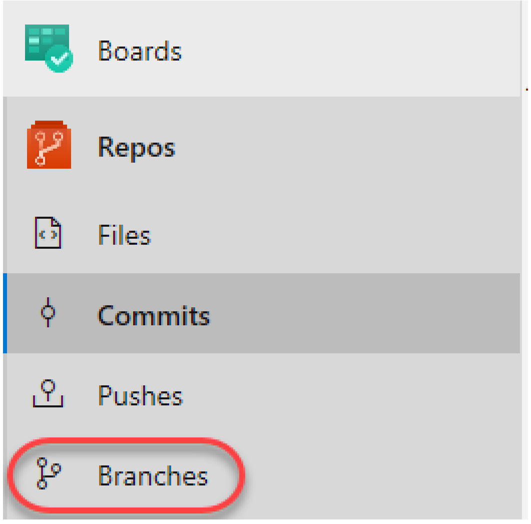


Branches | PartsUnlimited

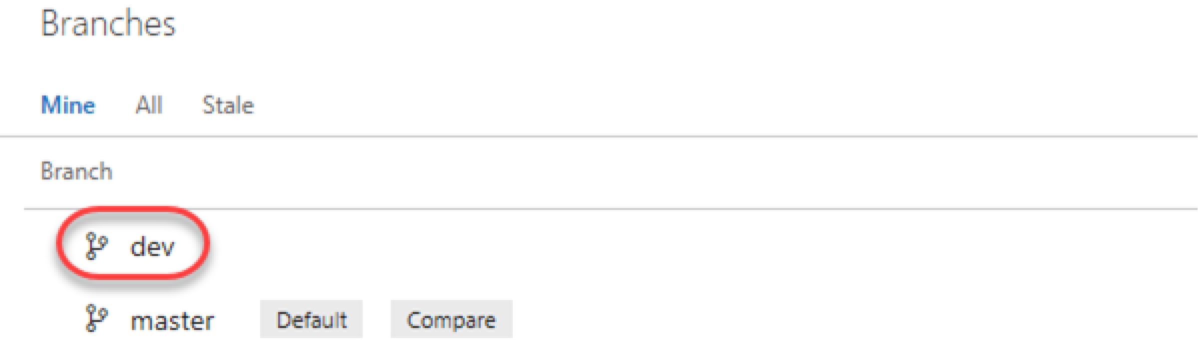
Pushing branch

Pushing branch...

4. On Azure DevOps, switch to the **Branches** tab.

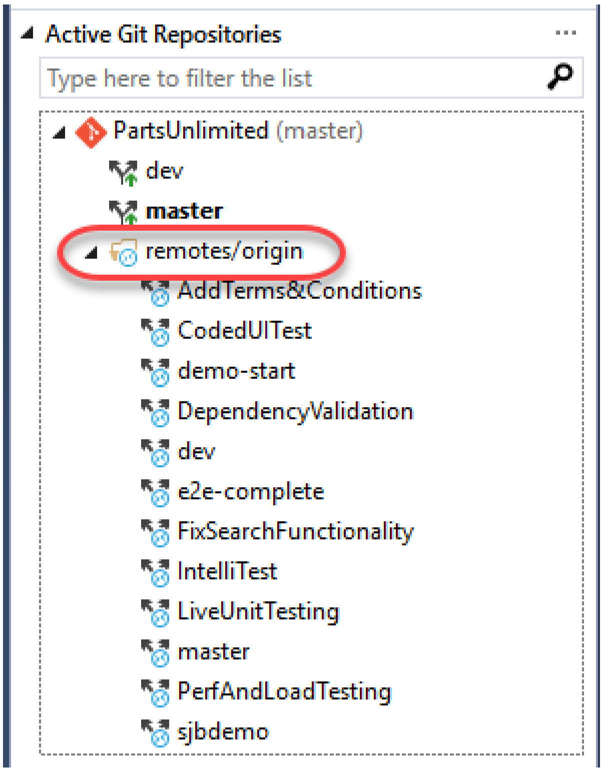


5. You should see the newly pushed **dev** branch


Branches

Branch		
dev		
master	Default	Compare

6. Back in **Visual Studio**, in the Branches view expand **remotes/origin**. Here you can see all of the remote branches, including those that haven't been pulled down locally.



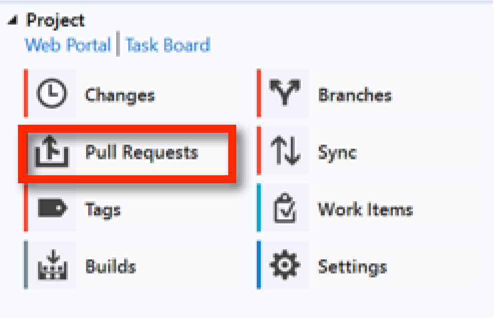
PartsUnlimited (master)
- dev
- **master**
- remotes/origin
  - AddTerms&Conditions
  - CodedUITest
  - demo-start
  - DependencyValidation
  - dev
  - e2e-complete
  - FixSearchFunctionality
  - IntelliTest
  - LiveUnitTesting
  - master
  - PerfAndLoadTesting
  - sjbdemo

Exercise 2: Creating a Pull Request.

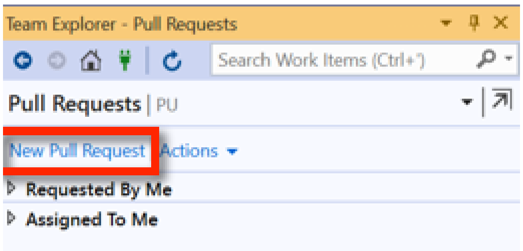
You can create a pull request from Visual Studio or in Azure Repos. In this exercise you will use Visual Studio. In the previous exercise you pushed your local **dev** branch to Azure Repos.

Task 1: Create Pull Request for pushed **dev** branch in Visual Studio

1. You can initiate a pull request from Visual Studio. From the **Pull Requests** view you can view pull requests opened by you, assigned to you, and you can create new pull requests.

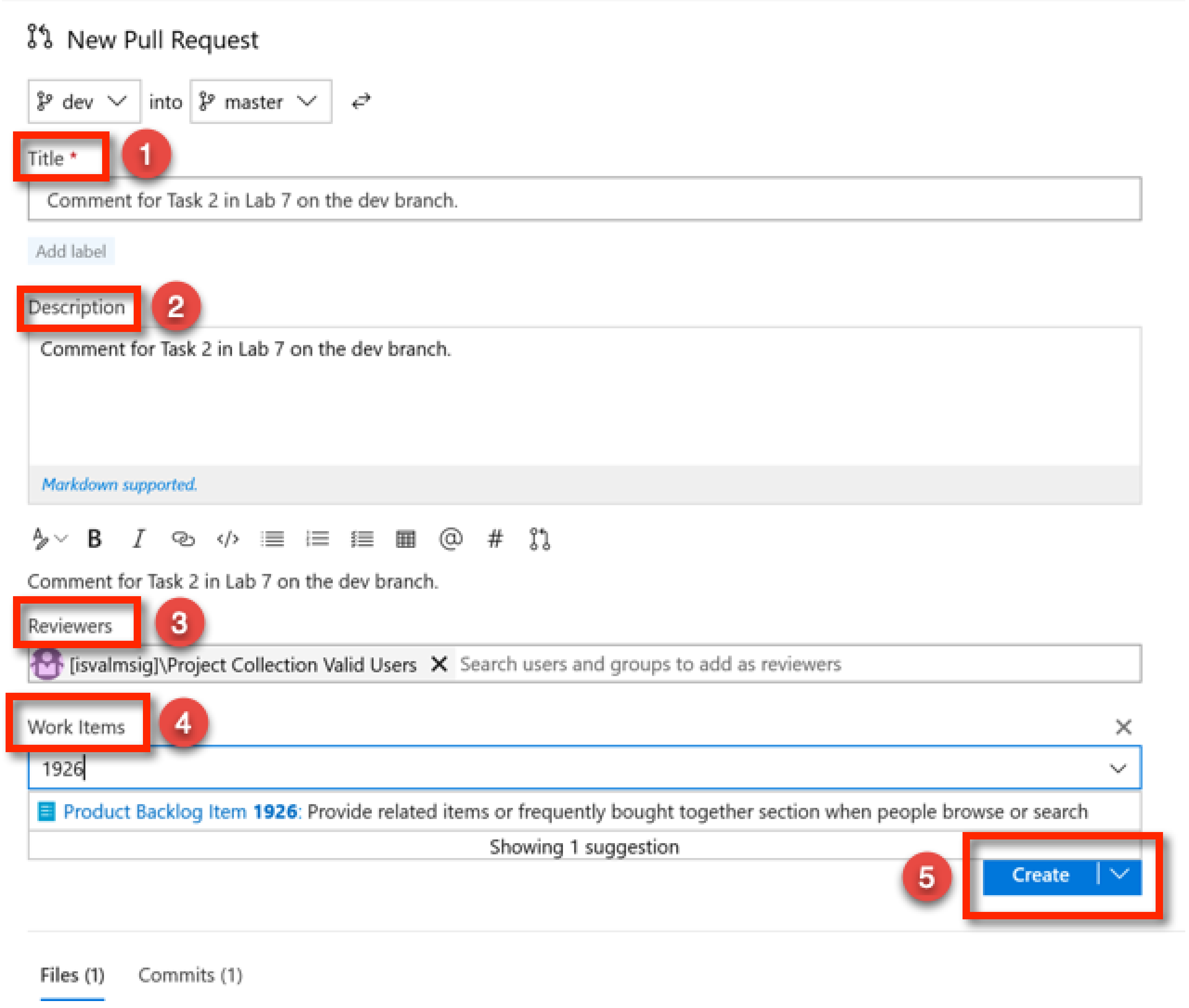


2. Select **New Pull Request** to open up your web browser where you can create the new pull request in the Azure DevOps Services web portal for your current branch.



Task 3: Creating Pull Request for pushed branch

1. The New Pull Request, by default will use your commit message as the title of the Pull Request. You should give a clear **(1)title** for the pull request that describes the changes in the branch. In the **(2)description** field give a clear explanation of how the changes are implemented along with any resources that might help reviewers understand the changes. You can include Azure DevOps **(3)work items** and hyperlinks to allow others to have as much context as possible when reviewing your changes. Add any **(4)team member or group** who you would like to review the changes, add yourself as a reviewer for the purposes of the lab. Click on **(5)Create** to create the new pull request.



New Pull Request

dev into master

Title *: Comment for Task 2 in Lab 7 on the dev branch.

Description: Comment for Task 2 in Lab 7 on the dev branch.

Reviewers: [isvalmsig]\Project Collection Valid Users

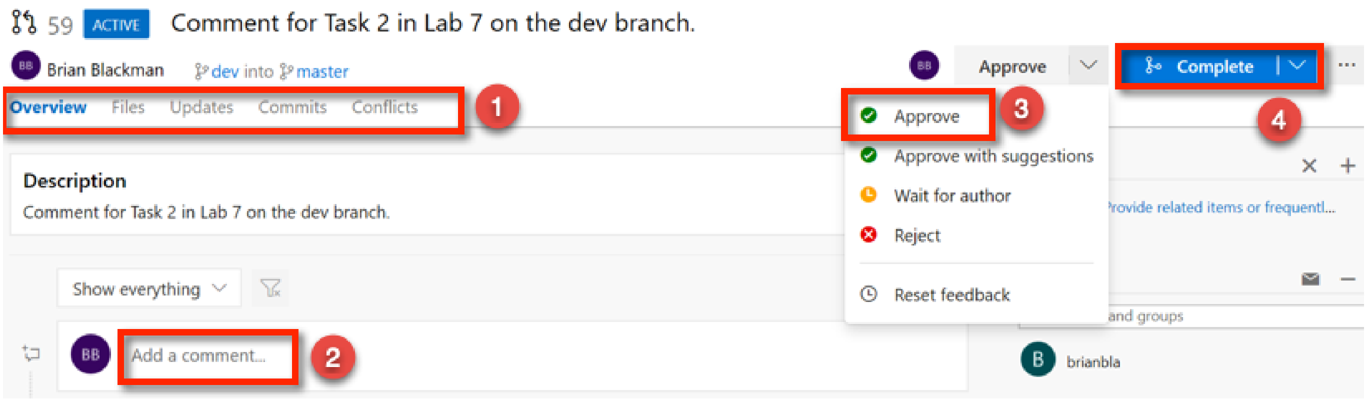
Work Items: 1926

Product Backlog Item 1926: Provide related items or frequently bought together section when people browse or search

Showing 1 suggestion

2. Reviewers can view the **(1)Files, Updates, Commits, and any Conflicts**. They can **(2)add comments**. Once you get the team's feedback, you can keep the pull request open to continue the conversation or abandon the pull request until your code is ready to be shared again.

3. Approve your pull request by clicking on **(3) Approve** and complete your pull request after the reviewers approve of the changes by selecting **(4)Complete**.



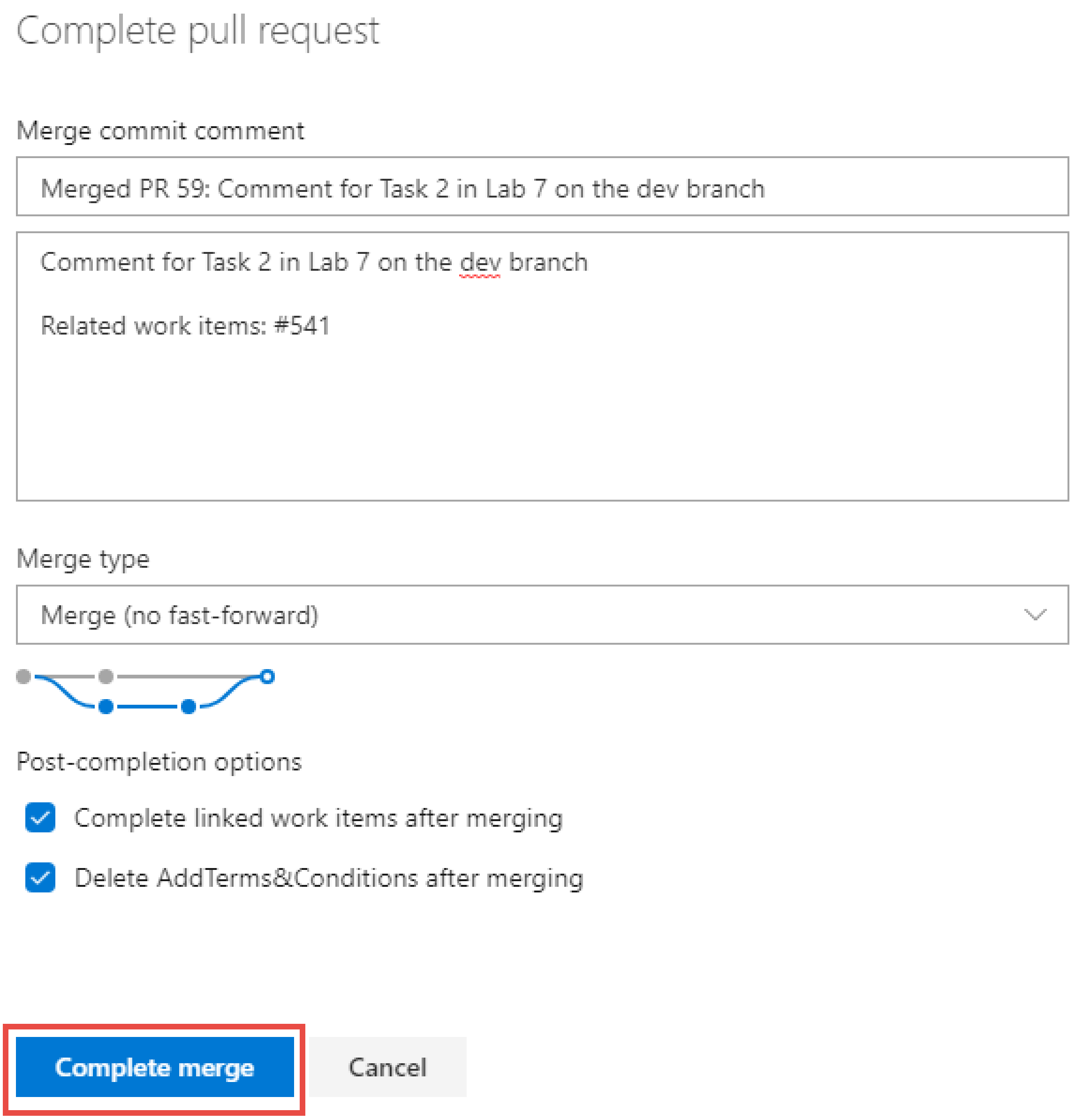
59 ACTIVE Comment for Task 2 in Lab 7 on the dev branch.

Brian Blackman dev into master

Description

Comment for Task 2 in Lab 7 on the dev branch.

4. You have a few options for the Merge Type, for this example choose "Merge (no fast-forward)". Choose complete linked work items after merging to complete any linked work items, and also delete your branch after merging. Click on **Complete Merge**.



Complete pull request

Merge commit comment

Merged PR 59: Comment for Task 2 in Lab 7 on the dev branch

Comment for Task 2 in Lab 7 on the dev branch

Related work items: #541

Merge type

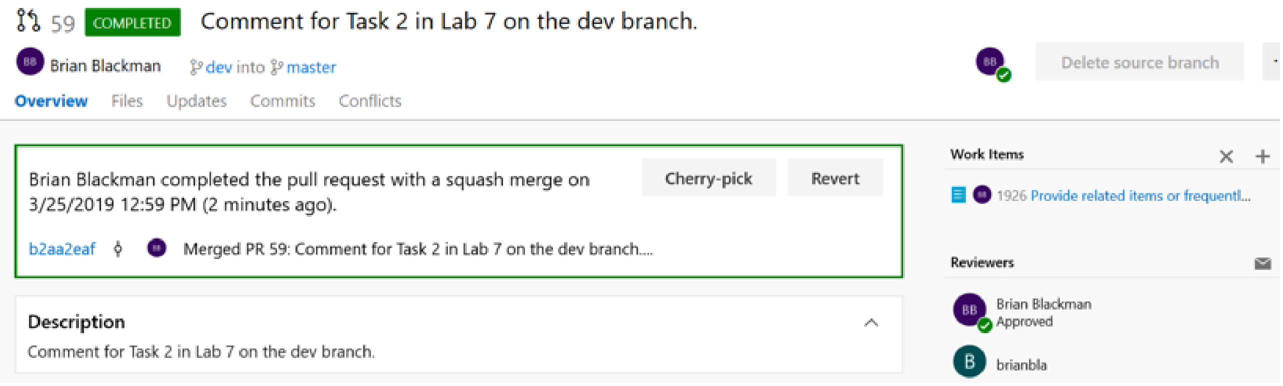
Merge (no fast-forward)

Post-completion options

☑ Complete linked work items after merging

☑ Delete AddTerms&Conditions after merging

5. And your pull request, merge, squash, and work items are complete.



59 COMPLETED Comment for Task 2 in Lab 7 on the dev branch.

Brian Blackman dev into master

Brian Blackman completed the pull request with a squash merge on 3/25/2019 12:59 PM (2 minutes ago).

b2aa2eaf Merged PR 59: Comment for Task 2 in Lab 7 on the dev branch....

Description

Comment for Task 2 in Lab 7 on the dev branch.

Work Items

1926 Provide related items or frequentl...

Reviewers

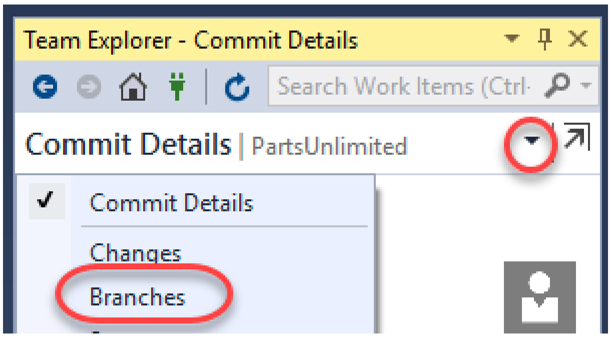
Brian Blackman Approved

brianbla

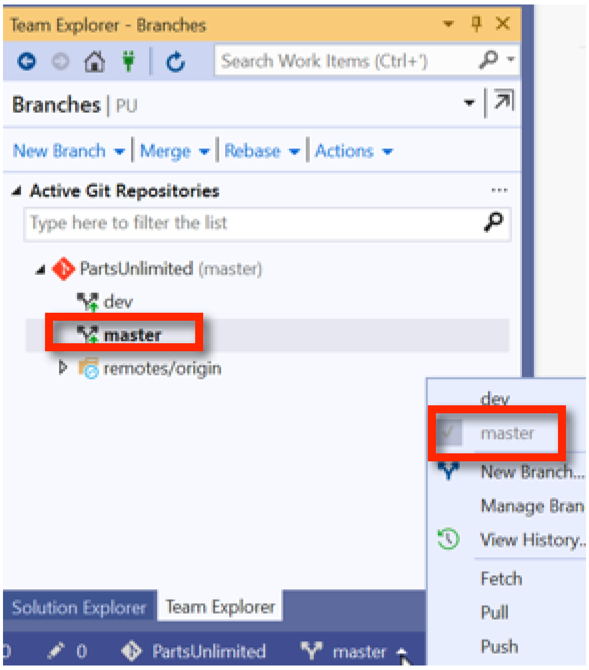
Task 4: Update your local branch with the remote master branch that has the changes from the pull request.

Now you need to get the pull request changes merged into the remote master updated in your local master.

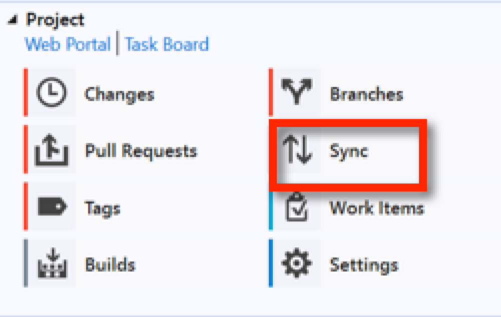
1. In Visual Studio, from the **Team Explorer** dropdown, select **Branches**.


Team Explorer - Commit Details
Search Work Items (Ctrl-
Commit Details | PartsUnlimited
Commit Details
Changes
Branches

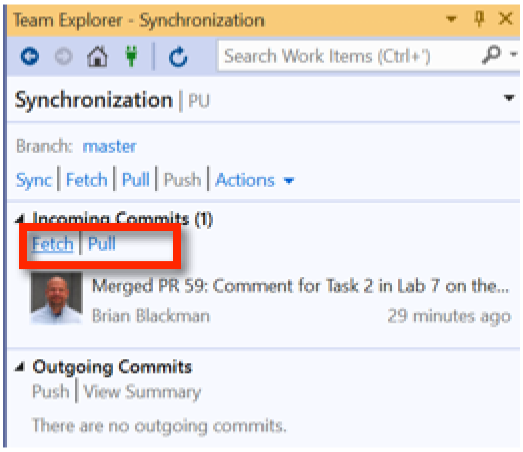
2. Double click **master** to switch back to the local **master** branch, or select master from the status bar.



3. In Team Explorer click on the **Sync View**.



4. Click on **Fetch** to see the changes that will be merged into your local master. Click on **Pull** to merge the change into your local master.



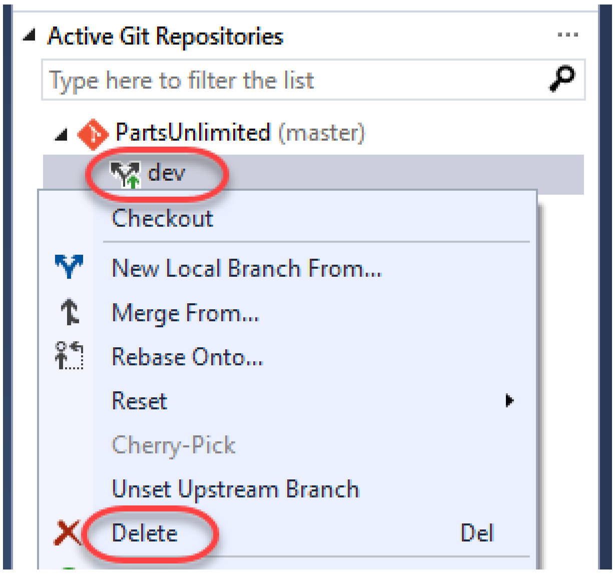
Merged PR 59: Comment for Task 2 in Lab 7 on the...
Brian Blackman 29 minutes ago

There are no outgoing commits.

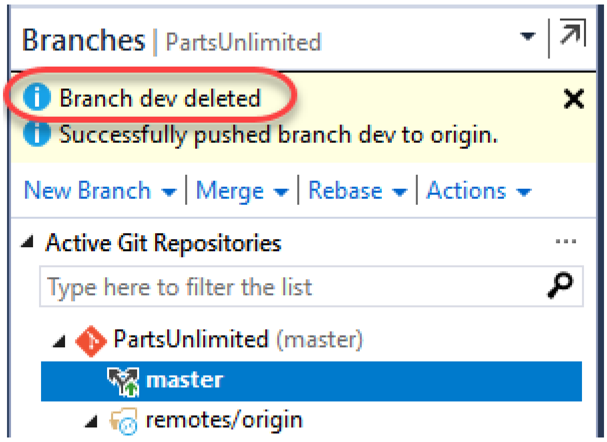
Exercise 3: Deleting branches

Task 1: Deleting branches locally and remotely

1. In Visual Studio, if you are not on the master branch then checkout master.
2. Since you are not working on dev and no longer need it, right-click it and select **Delete**

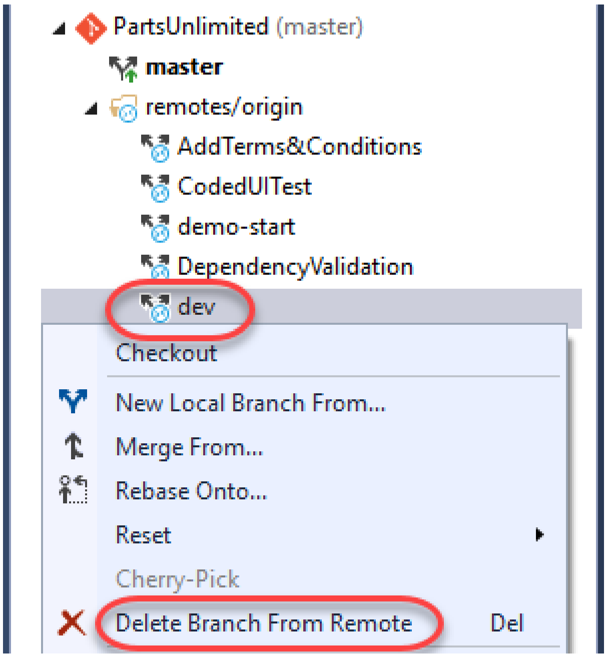


2. Note that while you have deleted the local **dev** branch, the remote branch still exists

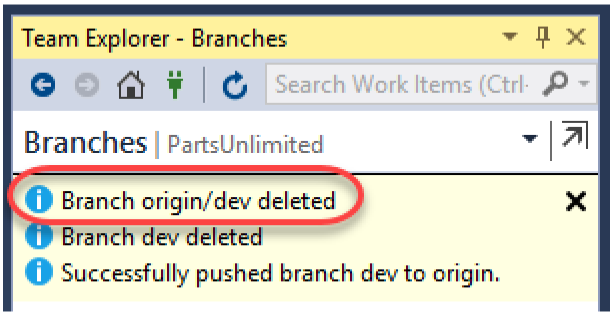

Branches | PartsUnlimited
New Branch | Merge | Rebase | Actions
Active Git Repositories
Type here to filter the list
PartsUnlimited (master)
master
remotes/origin

Branch dev deleted
Successfully pushed branch dev to origin.

3. To delete the remote branch, right-click it under **remotes/origin** and select **Delete Branch From Remote**.

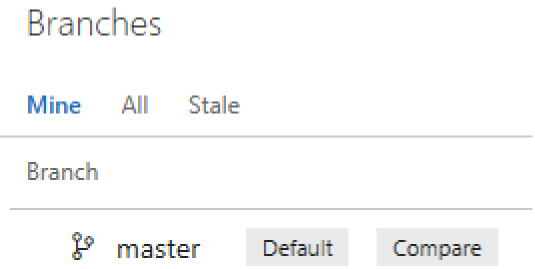


4. The remote branch should delete pretty quickly.



Branch origin/dev deleted
Branch dev deleted
Successfully pushed branch dev to origin.

5. You can confirm that it's gone by refreshing the **Branches** page on Azure DevOps.



Congratulations, you have created a branch, switched branches, shared your branch with your team, deleted local and remote branches, created and managed a pull request, and you managed branches from Visual Studio IDE!