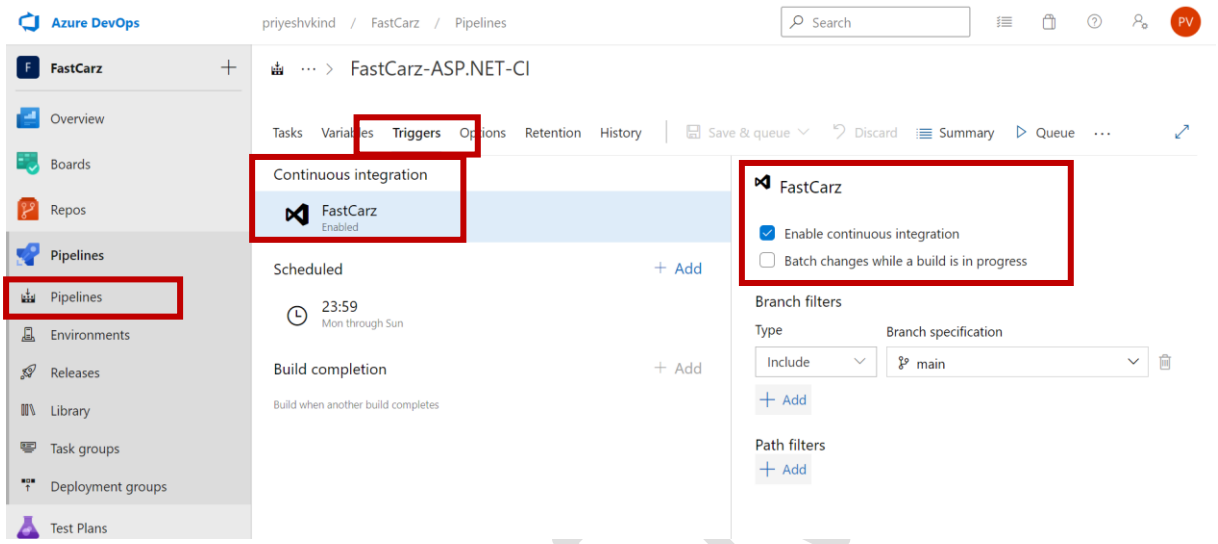
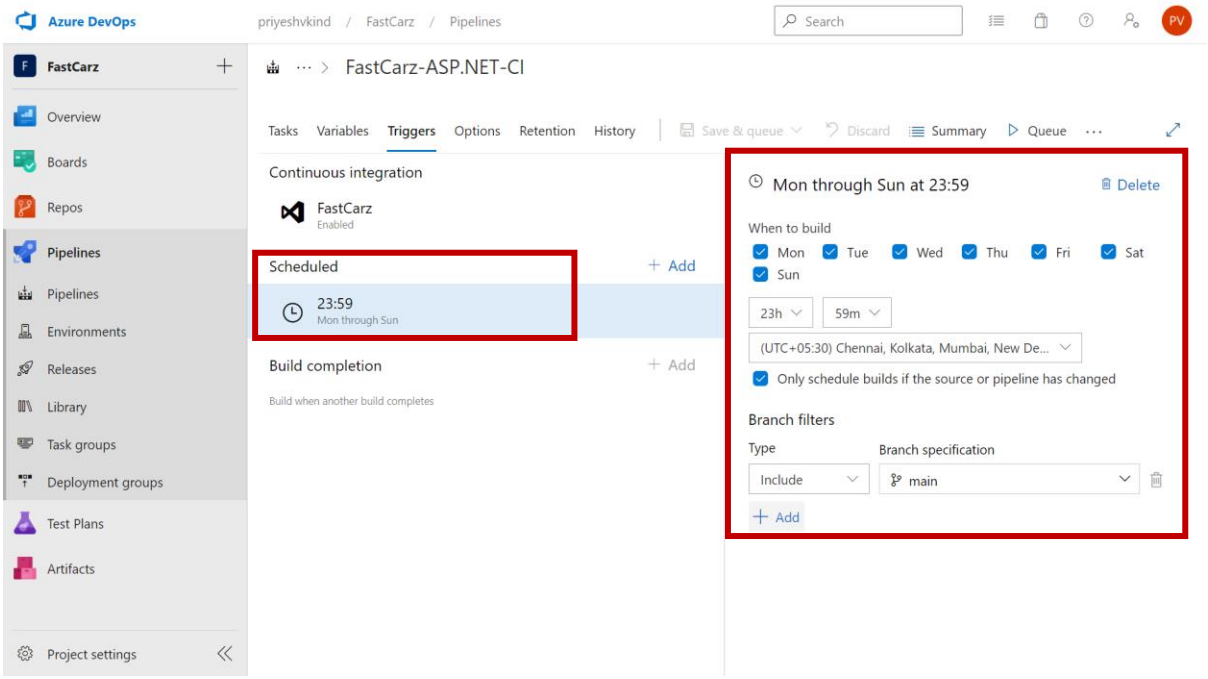
1) The build should trigger as soon as anyone in the dev team checks in code to master branch.
Solution: For creating triggers on any or master (main) branch, we have to:

1. Click on pipelines, go to the build pipeline
2. Click on triggers & within Continuous integration, we have to select the branch name & check enable continuous integration
3. Make sure the branch filters has the master (main) branch



Moreover, because the build used to run every night, we could schedule the build within triggers:



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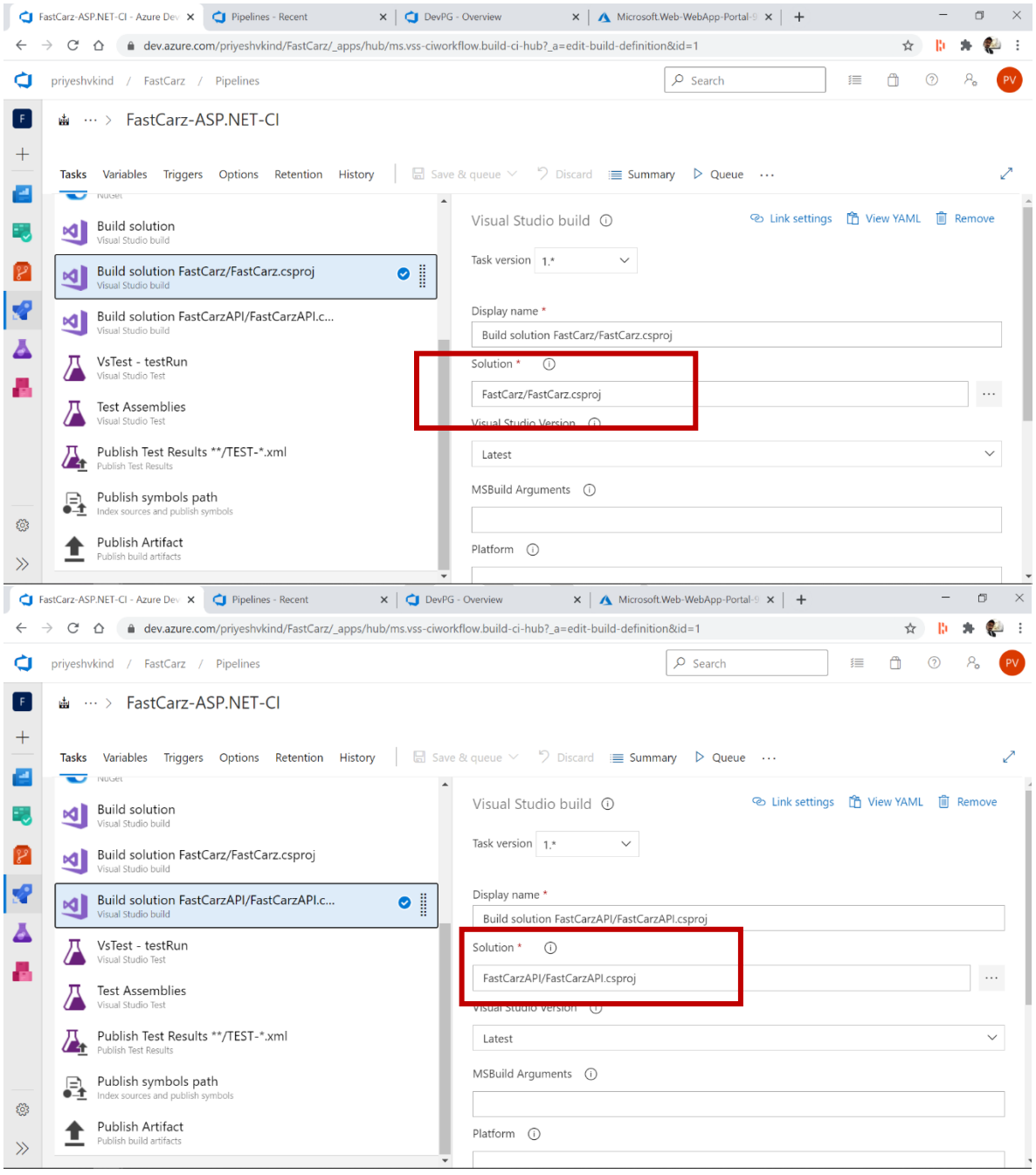
2) There will be test projects which will create and maintained in the solution along the Web and API. The trigger should build all the 3 projects - Web, API and test. The build should not be successful if any test fails.

Solution: For building all the projects within a single trigger, we can include separate tasks within the pipeline for multiple project builds, specifying the CSPROJ that we want to build for.



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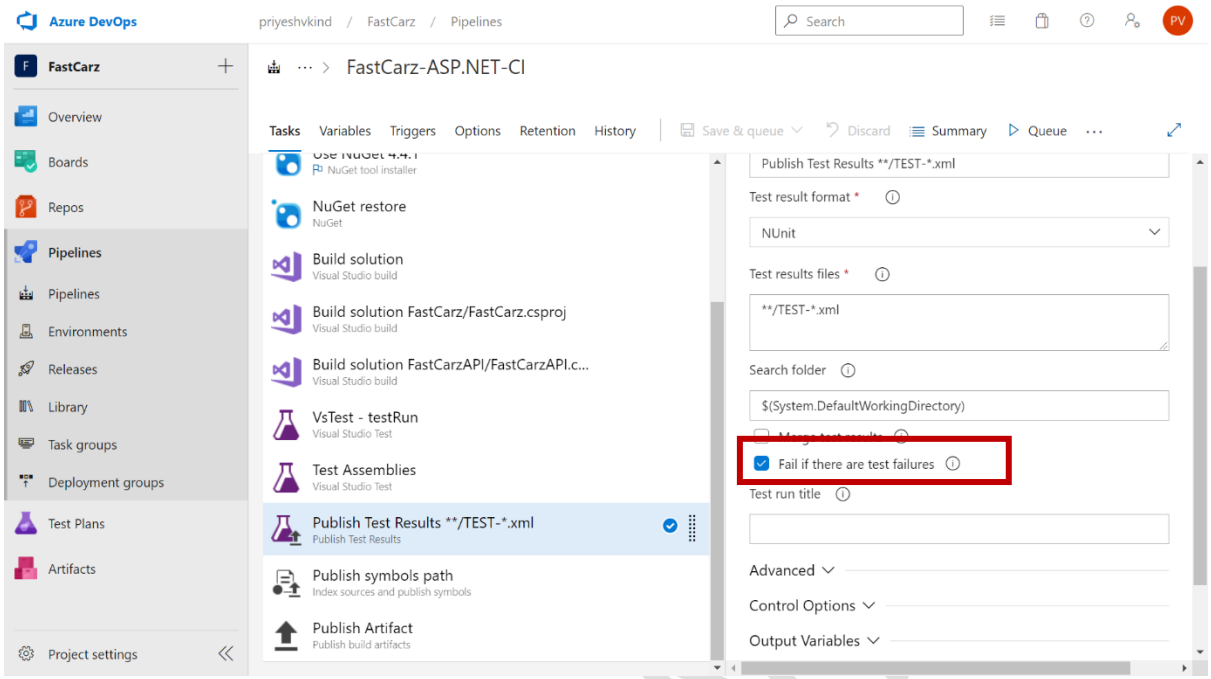
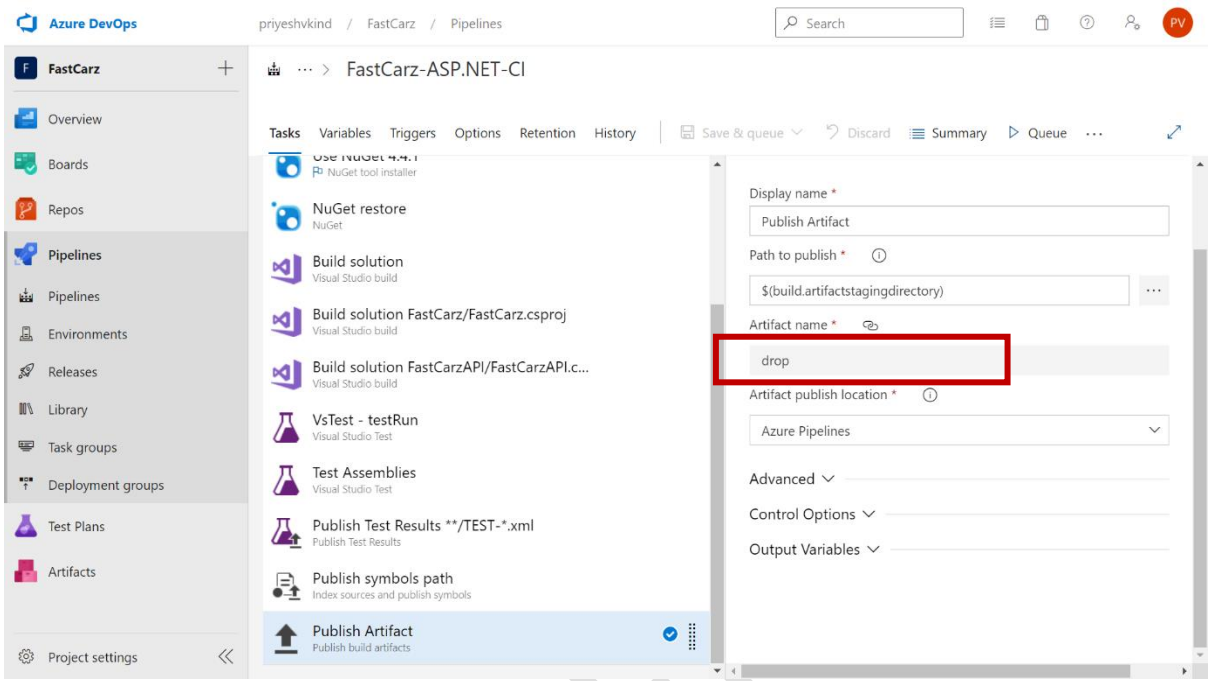
For build to fail on test failures, We have to check “Fail if there are test failures” within the publish test results task

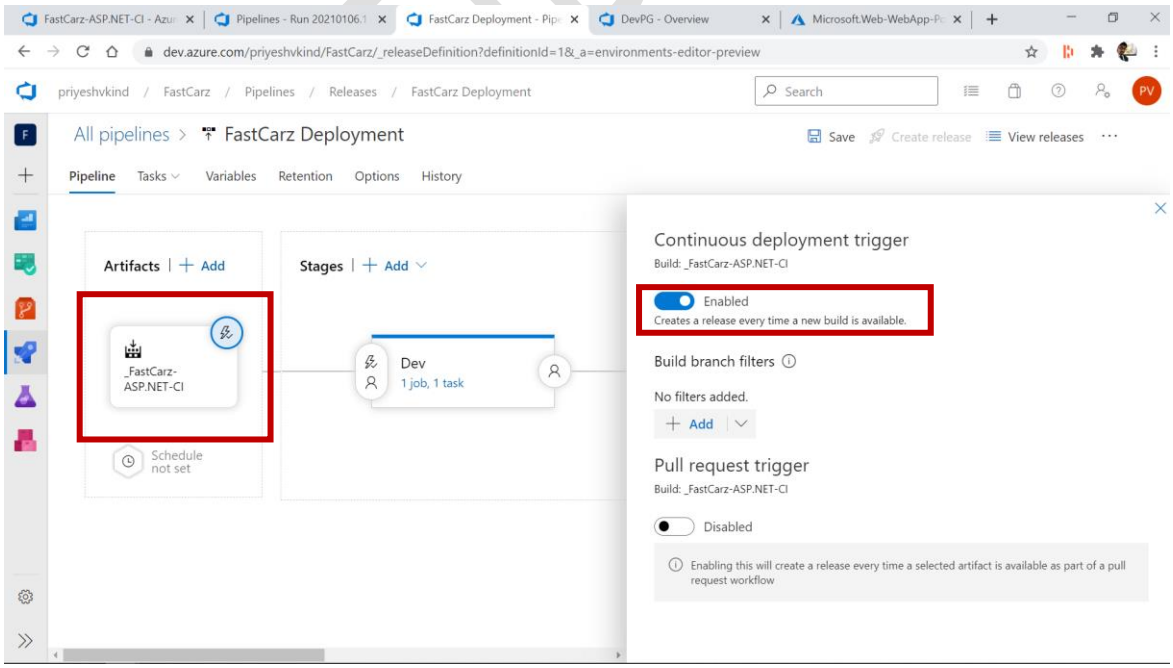


3) The deployment of code and artifacts should be automated to Dev environment.

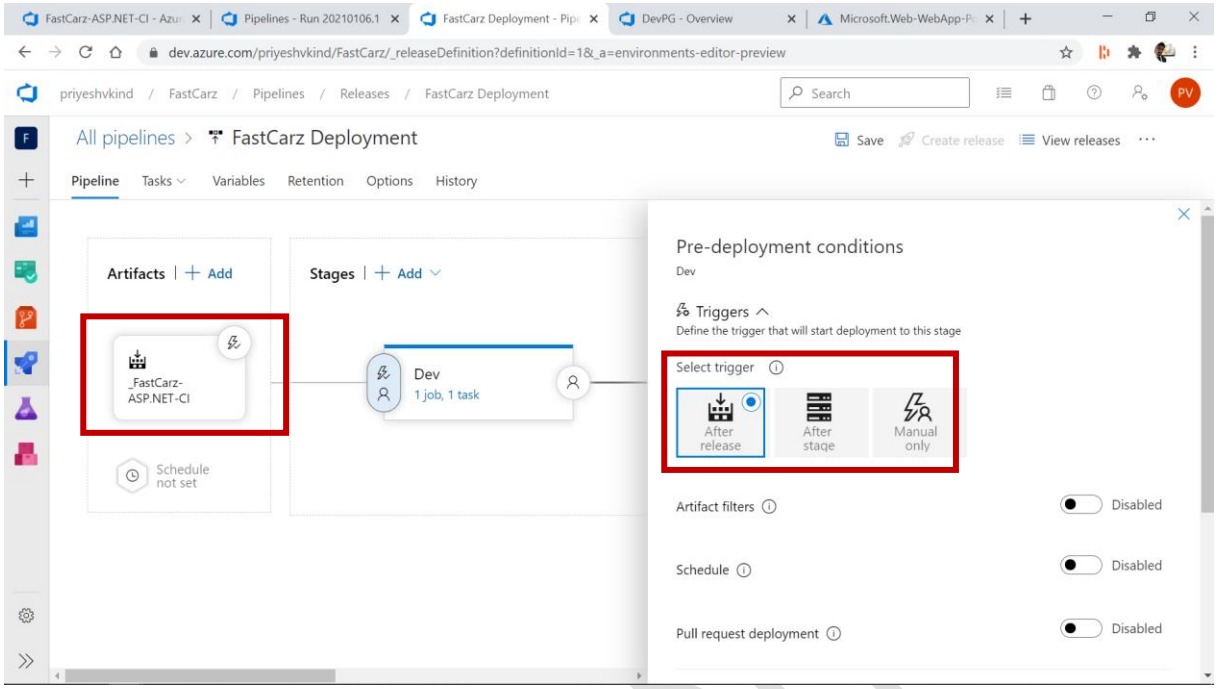
Solution: The build pipeline artifacts should be published within the drop folder using the publish artifact task.



Then, we have to consume it within the release pipeline for Dev Stage. This could be done by enabling Continuous Deployment trigger.

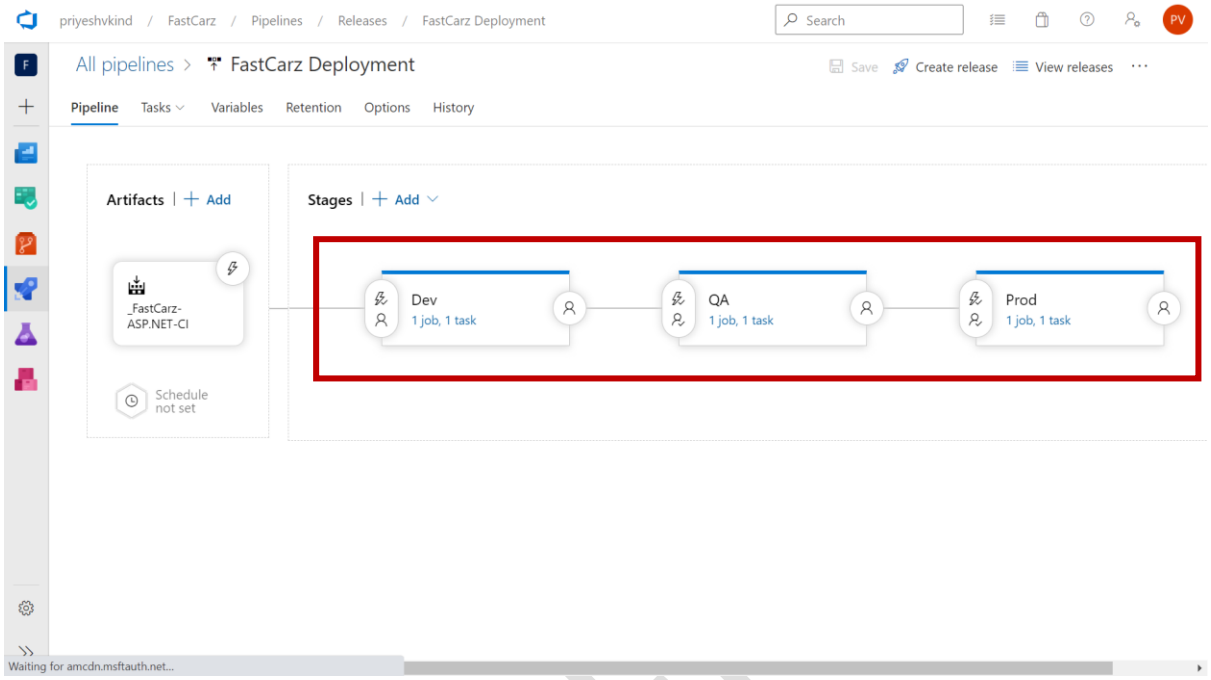


Also, within the Dev stage, “after release” trigger needs to be selected:

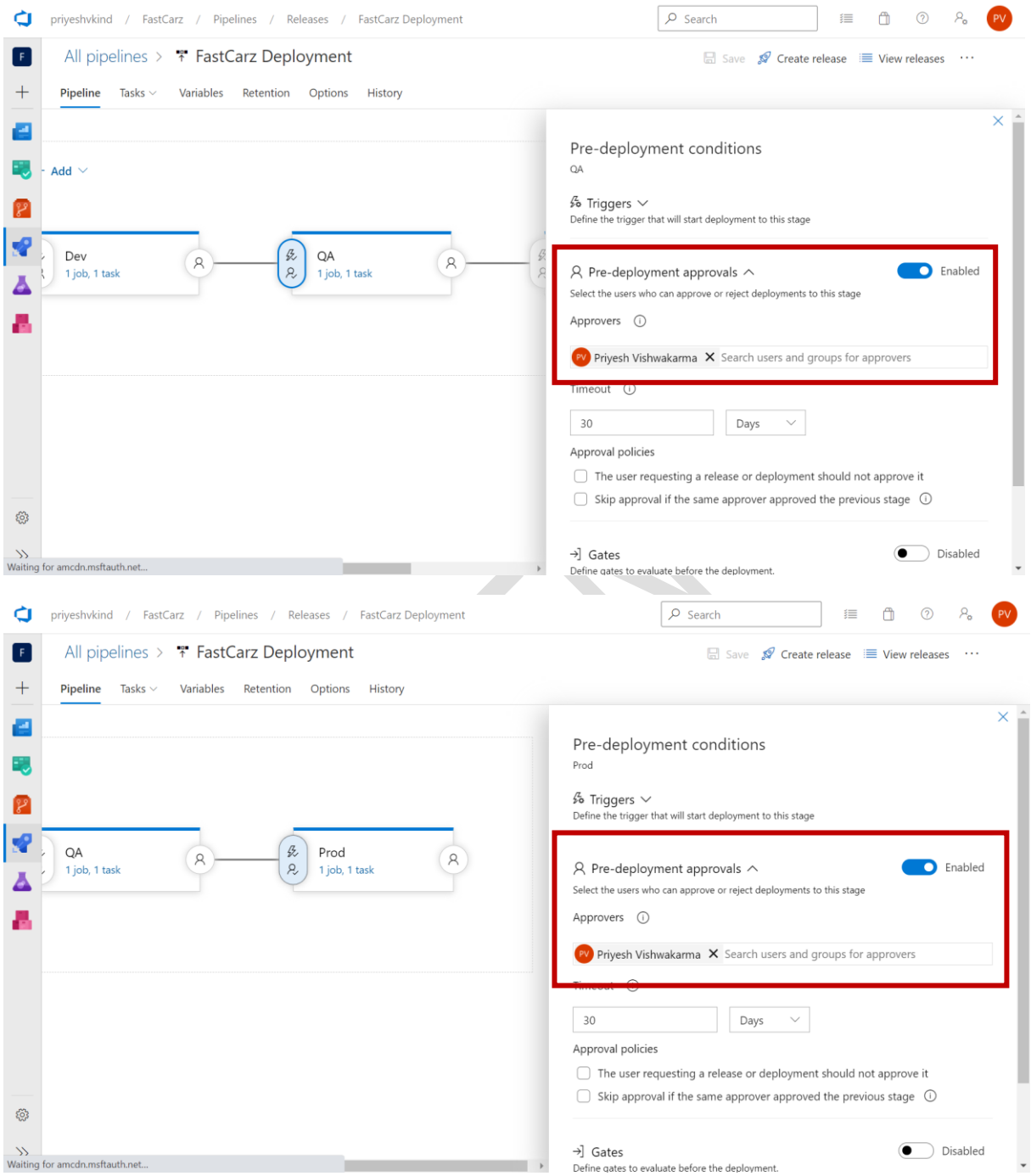


4) Upon successful deployment to the Dev environment, deployment should be easily promoted to QA and Prod through automated process.

Solution: We need to enable multi-stage deployment. This could be done by creating multiple stages within the release pipeline & enabling triggers after every stage.



5) The deployments to QA and Prod should be enabled with Approvals from approvers only.
Solution: Pre-deployment approvals should be enabled for deployment on QA & Prod



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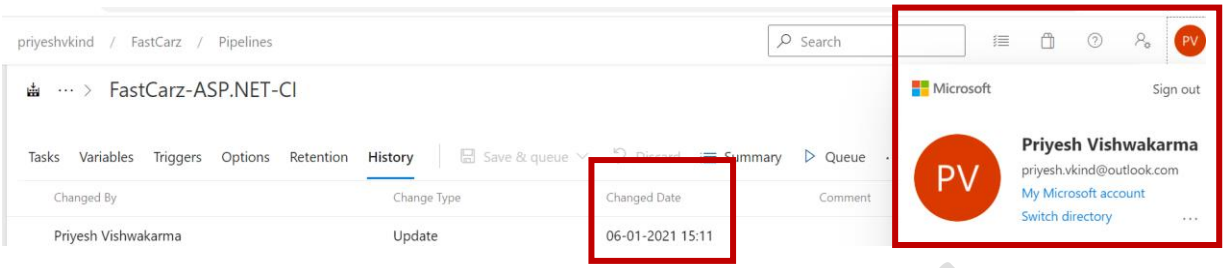
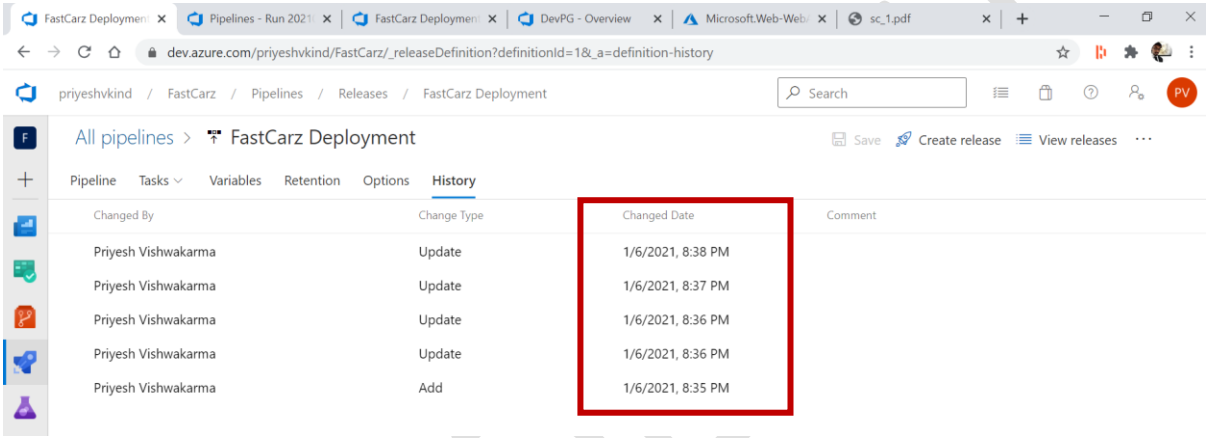
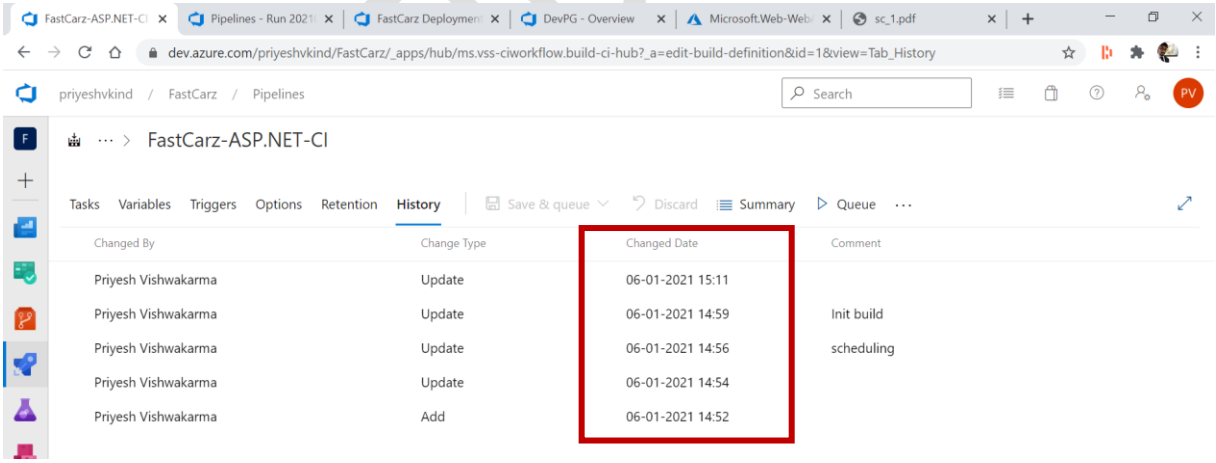
NOTE: the above solutions are being configured & screenshotted from my own account within Azure DevOps







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