Question 1:

The build should trigger as soon as anyone in the dev team checks in code to master branch.1.

Answer:

- This can be done by **enabling the Continuous Integration Trigger** in the trigger section of the Build Pipeline
- As soon as the dev person commits any changes in the code in the "master" branch, the build gets triggered automatically by generating the artifacts

Question 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.

Answer :

```
testResultsFormat: VSTest
            searchFolder: ‘$(Agent.TempDirectory)/TestResults’
            testResultsFiles: ‘**/build_*.trx’
            failTaskOnFailedTests: true
```

Question 3:

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

Answer:

- The code can be automatically deployed by **enabling the continuous deployment trigger.**

```
stage: 'Devlopment' #Stage name cannot have spaces
 displayName: 'Devlopment' #Name displayed when viewing in Azure DevOps
 dependsOn: ['Build_Stage'] #List of previous stages that must complete before this stage runs
 jobs:
 - deployment: Deploy_Devlopment #No spaces
  displayName: Devlopment Deployment #Name displayed in UI
  pool:
   vmImage: $(AgentImage) #variable that was defined previously (not shown in this snippet)
  environment: Deployment
  strategy:
   runOnce:
    deploy:
     steps:
     - download: current
      artifact: 'app'
     - task: ExtractFiles@1
      displayName: 'Extract files'
      inputs:
       archiveFilePatterns: "$(Pipeline.Workspace)/app/application.zip"
       destinationFolder: "$(Pipeline.Workspace)/files"
     - task: AzureRmWebAppDeployment@4
      displayName: 'Azure App Service Deploy'
      inputs:
       ConnectionType: 'AzureRM' #This is the default Value
       WebAppKind: 'webApp' #This is the default value
       azureSubscription: 'PipelineApp Azure Connection' #Name of the Service Connection previously
created
       WebAppName: 'Devlopment-MWKS-PipelineApp' #Name of the App Service to be deployed to
       Package: '$(Pipeline.Workspace)/files/BasicCoreApp' #Application files to be deployed
       enableCustomDeployment: true #These two properties override the default of having
       DeploymentType: 'webDeploy'  #the pipeline deciding for us what it thinks the best deployment option
should be
```

Question 4:

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

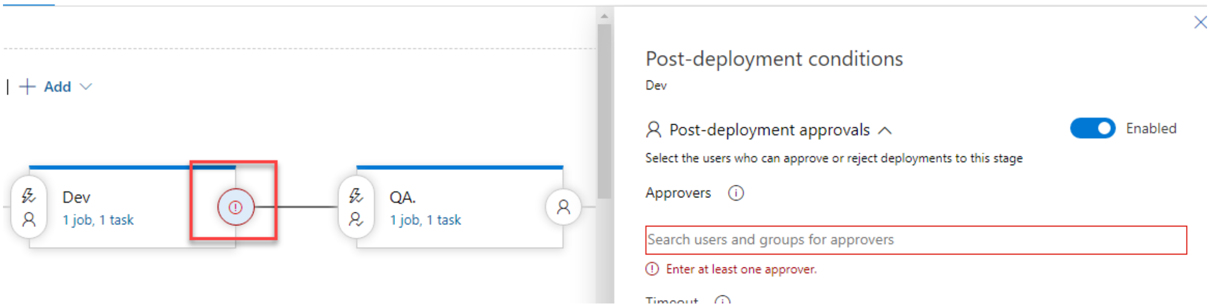
```
stage: 'UAT' #Stage name cannot have spaces
 displayName: 'UAT' #Name displayed when viewing in Azure DevOps
 dependsOn: ['Build_Stage', 'Devlopment'] #List of previous stages that must complete before this stage runs
 jobs:
 - deployment: Deploy_UAT #No spaces
  displayName: UAT Deployment #Name displayed in UI
  pool:
   vmImage: $(AgentImage) #variable that was defined previously (not shown in this snippet)
  environment: UAT
  strategy:
   runOnce:
    deploy:
     steps:
     - download: current
      artifact: 'app'
     - task: ExtractFiles@1
      displayName: 'Extract files'
      inputs:
       archiveFilePatterns: "$(Pipeline.Workspace)/app/application.zip"
       destinationFolder: "$(Pipeline.Workspace)/files"
     - task: AzureRmWebAppDeployment@4
      displayName: 'Azure App Service Deploy'
      inputs:
       ConnectionType: 'AzureRM' #This is the default Value
       WebAppKind: 'webApp' #This is the default value
       azureSubscription: 'PipelineApp Azure Connection' #Name of the Service Connection previously
created
       WebAppName: 'UAT-MWKS-PipelineApp' #Name of the App Service to be deployed to
       Package: '$(Pipeline.Workspace)/files/BasicCoreApp' #Application files to be deployed
       enableCustomDeployment: true #These two properties override the default of having
       DeploymentType: 'webDeploy'  #the pipeline deciding for us what it thinks the best deployment option
should be

- stage: 'Production' #Stage name cannot have spaces
 displayName: 'Production' #Name displayed when viewing in Azure DevOps
 dependsOn: ['Build_Stage', 'UAT'] #List of previous stages that must complete before this stage runs
 jobs:
 - deployment: Deploy_Production #No spaces
  displayName: Production Deployment #Name displayed in UI
  pool:
   vmImage: $(AgentImage) #variable that was defined previously (not shown in this snippet)
  environment: Production
  strategy:
   runOnce:
    deploy:
     steps:
     - download: current
      artifact: 'app'
     - task: ExtractFiles@1
      displayName: 'Extract files'
      inputs:
       archiveFilePatterns: "$(Pipeline.Workspace)/app/application.zip"
       destinationFolder: "$(Pipeline.Workspace)/files"
     - task: AzureRmWebAppDeployment@4
      displayName: 'Azure App Service Deploy'
      inputs:
       ConnectionType: 'AzureRM' #This is the default Value
       WebAppKind: 'webApp' #This is the default value
       azureSubscription: 'PipelineApp Azure Connection' #Name of the Service Connection previously created
       WebAppName: 'prod-MWKS-PipelineApp' #Name of the App Service to be deployed to
       Package: '$(Pipeline.Workspace)/files/BasicCoreApp' #Application files to be deployed
       enableCustomDeployment: true #These two properties override the default of having
       DeploymentType: 'webDeploy'  #the pipeline deciding for us what it thinks the best deployment option should be
```

Question 5

The deployments to QA and Prod should be enabled with Approvals from approvers only.

Answer:

- For deployments to be enabled by using Approver's Approval in QA stage, we need to add Approver's name to the **Post deployment conditions** by *enabling it in the DEV stage*.



Post-deployment conditions
Dev

Post-deployment approvals — Enabled

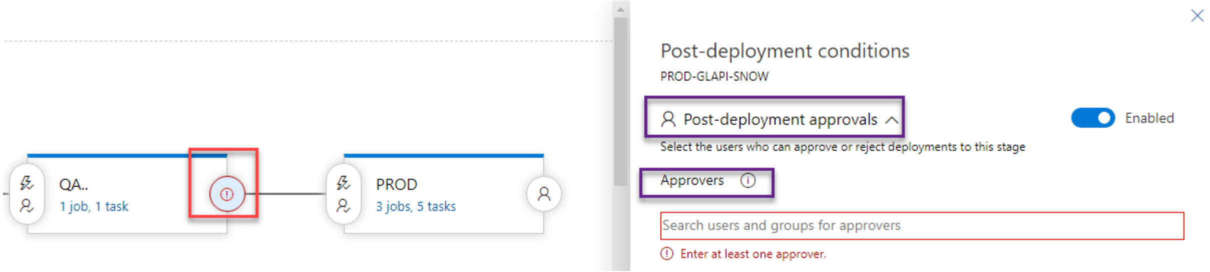
Select the users who can approve or reject deployments to this stage

Approvers

Search users and groups for approvers

Enter at least one approver.

- Similarly, we need to do the same with QA stage. In the post deployment conditions of the QA stage, we need to add the Approvers name for the PROD stage deployment. So that PROD deployment will be enabled once the assigned approver has approved the request for the deployment.



Post-deployment conditions
PROD-GLAPI-SNOW

Post-deployment approvals — Enabled

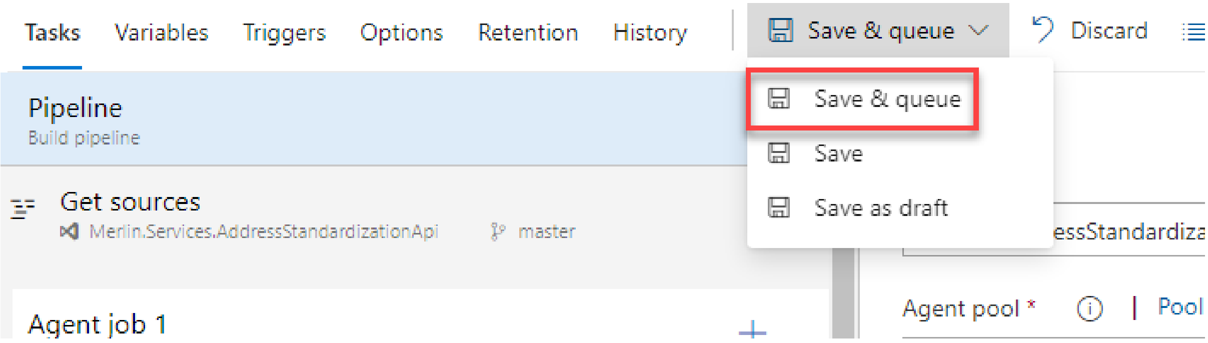
Select the users who can approve or reject deployments to this stage

Approvers

Search users and groups for approvers

Enter at least one approver.

- Whenever we make any changes to our pipeline, we should always save the changes to reflect the saved changes.



Tasks
Variables
Triggers
Options
Retention
History
Save & queue
Discard
Save & queue
Save
Save as draft
Pipeline
Build pipeline
Get sources
Merlin.Services.AddressStandardizationApi
master
Agent job 1
essStandardiza
Agent pool *
Pool