**CI Pipeline Research**

**Github CI**

**Azure Pipelines**

* Offers a lot for free tier compared to other solutions:
  + Can target any OS (Windows/Mac/Linux)
  + Fast (10 parallel workers per organization)
  + Higher output
  + Apparently more reliable
  + Easy setup (bit more complex than Travis, but way more flexibility)
* Pros:
  + Usability - great user interface
  + Customizable - tasks are categorized based on nature of operation
  + Group Tasks - encapsulate a sequence of tasks in the pipeline into one task
  + Configure CI/CD Pipeline as code - uses YAML to do this
  + Any language, platform, cloud
* Cons:
  + Difficult to integrate with non-MS products
  + Straightforward workflow - hard to develop complex workflows
  + Apparently, documents are not up to date
* Resources:
  + [Azure Pipelines Main](https://azure.microsoft.com/en-us/services/devops/pipelines/)
  + [Azure Pipelines Medium Article](https://medium.com/@ymedialabs/the-pros-and-cons-of-jenkins-vs-azure-devops-469c66140b4d#:~:text=duration%20of%20run.-,Cons,difficult%20to%20develop%20complex%20workflows.)
  + [Flutter with CI / CD, using Azure Devops to push to Production](https://blog.kurtlourens.com/flutter-with-ci-cd/)
  + [Flutter VS Code Extension for Azure DevOps](https://marketplace.visualstudio.com/items?itemName=aloisdeniel.flutter)

**Travis CI**

* Simplest/most comm

**CircleCI**

**AppVeyor**

**Articles**

* <https://dev.to/itnext/the-ultimate-free-ci-cd-for-your-open-source-projects-3bkd>
  + Mentions using a combo of Travis CI + AppVeyor to deal with cross-platform bugs in the past, prior to finding Azure Pipelines
  + Possible issues mentioned:
    - Build matrix for multiple projects, each with multiple builds, total build time is very long
    - Flaky builds occur sometimes due to a flaw with the CI itself, not the code → sometimes, these bugs can persist for weeks, causing builds to fail for no good reason