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GitHub is a cloud-based Git repository hosting service, which makes it easier for individuals or teams to collaborate and use Git. Git allows developers to have version control, where they can save different versions of a project or file, look back at what has been changed and revert to a previous version if need be. This may be useful for tracking errors and mistakes made during development. With Git, team members can push or pull changes to a project from other installations on other computers. One downside to this is that if two team members are working on the same project simultaneously, they will not be able to see each other’s work in real-time. This is where GitHub steps in. GitHub allows multiple developers to work on the same project and see others changes in real-time. GitHub also allows developers to assign tasks, set permissions, and use comment moderation. GitHub repositories are public, and can be viewed, edited, or modified by any other developers with a GitHub account, effectively making it a networking site and a way to build up a resume.

Google Workflows allow you to combine Google Cloud Services and APIs to build applications, process automation, and data and machine learning pipelines. You can deploy and execute a workflow that connects services together, as well as automate processes like waiting and retrying for a timeout of up to one year and implement real-time processing with low-latency, event driven executions. Google Workflows has powerful execution control, where you can use expressions and functions to transform data and prepare request inputs. It can also automate conditions based on input and service responses and wait for asynchronous operations and events with polling and callback. Google Workflows have redundancy and fault-tolerance, so workflows are automatically replicated across multiple zones and checkpoints after each step. This ensures that execution continues even after outages. Google Workflows also takes care of the scale, and can scale up or down to zero executions or millions of executions. It can also orchestrate and integrate APIs of all types. Google Workflow has quick step transitions and does not cold start executions for latency-sensitive workloads. For example, if you have a user or customer waiting for a result or execution, Workflows are engineered to make step transition very quick. All of these features offered by Google Workflows can also be applied to GitHub or Git Repository. You can use a cloud build trigger to automatically build and deploy a workflow from a Git repository. You can configure the trigger to deploy on the workflow on any change to the repository, or when the change matches a certain set of criteria. Google Cloud Build is a service that executes your build on Google Cloud and can import source code from various repositories or cloud storage, and produce artifacts like Docker containers and Java archives. With the Cloud Build editor role, you can connect Cloud build to your source repository, create a Cloud build configuration file, create the build trigger, and test the build trigger.