

JENKINS

- Jenkins is a continuous integration tool. Jenkins is well known for its relatively easy setup and its automated build process that is integrated into the application. The tool “Jenkins” is extremely reliable and does not require constant monitoring. Jenkins has a very large plugin system with over 1500 different plugins that are offered by the application. But one of the greatest pros to using Jenkins is the community behind the application. Jenkins is an open source project therefore it receives lots of input and support from the community of programmers that use the app.

Jenkins started around 2007 under the name of Hudson. But after discussions over the trademarked rights to the name “hudson” the decision was made to change the name to “Jenkins”. Oracle claimed that Jenkins was not a rename but rather a fork of the Hudson app. But over time Jenkins has surpassed Hudson as the most popular of the two. Jenkins is in active development and the last upload to their Github was two months ago during the month of August in the year of 2021.

For help getting started using the app a helpful link is,
[“https://dzone.com/articles/jenkins-vs-gitlab-ci-battle-of-cicd-tools”](https://dzone.com/articles/jenkins-vs-gitlab-ci-battle-of-cicd-tools)

SENTRY

- Sentry is a real time monitoring tool. Sentry is a trusted tool that is used by some big name industries such as Github, Disney, Microsoft, and reddit. Users of the tool are provided with much information about their tool. Users can see release data, user context, and stack traces. Some of the features include custom queries, stack traces, breadcrumbs, issue owners, cross project issues, and graphs to show the performance of the code.

Sentry is an extremely well established app with lots of features but that does come with a price. The application has a higher price point than other applications. But because of the stability of the tool it is well worth it. Sentry's website is full of good information for getting started with the application. A helpful link is the following, [“https://sentry.io/for/full-stack/”](https://sentry.io/for/full-stack/). The application is very active as the last post to the public Github repository was posted seven minutes from the time that I started writing this paper. And the first one to ever be posted there was Feb 1, 2012.

STEP 2: RUNTIME ANALYSIS

When the command “node runtime.js” is run the Insert function has an average runtime of around 840Ms where the append function has an average runtime of around 4.1MS. So we can see that the append function is running a lot more efficiently and not taking up as much time as the insert function.

The pattern that is present is obvious. As the Arrays grow in size with the invoked number that is passed through the “getSizedArray” the run times for the arrays grow in size. The insert function starts out being faster than the append function but as the functions grow in size the roles are reversed and the append starts to run faster than the insert function.