Step 1: Alternative tool Research

Jenkins: Continuous Integration and Continuous Deployment

On the front page it has a few things it has that it can offer. The first is I believe should be common among these tools that is continuous integration and continuous delivery. It also claims that it is easy to set up and configured via its web interface. Also says that it includes on-the-fly error checks and built-in help. It supports lots of plugins for the ci/cd delivery toolchain. It has extensions to make it more useful. Also says it can easily work across multiple machines.

Reading through the documentation, It has a very good installation walkthrough. It covers a lot of OS systems. I read through a few of the installation instructions and they seem to be very detailed on how to install it. The documentation also has good details on how to use it. I found they have a few guides that will show you how to use it. As I read through the documentation, it seems that if you follow the user guide it should get you on your way using the app.

It has been around for about 15 years. Apparently it is not as popular as it used to be. Checking the github, the last release was this past July.

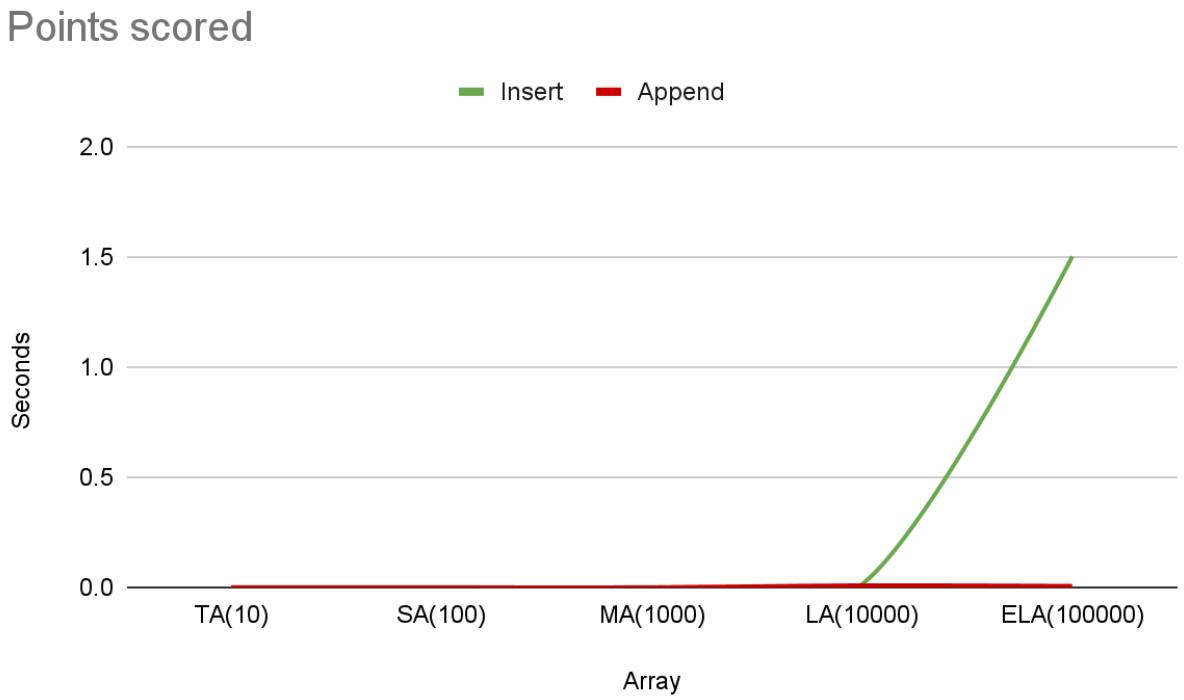
Sentry: Real Time Error Monitoring

Error log seems to be very good in helping you find where the problems are. It has a feature called “Breadcrumbs” that helps you find the errors by showing you how it got there. It also has a thing that can show you in recent changes if errors have been addressed and when new ones come up. It has customized queries to get you the data you want. Another useful feature is a thing called dashboards. It adds data visualization to the data monitoring. It supports a lot of different programming languages.

Looking through a couple of the languages, it seems very easy to set up. They have instructions for whichever language you are using and can install the library. Going through the website I found that they do have a sandbox you can use to try it out. One of the how to install guides I looked at was javascript. It looked very easy to install. You can just use npm and the call for it in your program.

Sentry was founded in 2002. It seems to be very mature with the amount of features and polish it has. Some of the companies that use sentry are disney, microsoft, reddit, autodesk, doordash, GitHub and more. I checked the last python github update, as of today 9-3-21 it was updated 2 days ago.

Step 2:Runtime Analysis



The results for the extraLargeArray: insert was 1.5011525 seconds and append was 6.2319 milliseconds.
The results for the largeArray: insert was 13.7708 milliseconds and append was 899.5 microseconds.
The results for mediumArray: insert was 222.3 microseconds and append was 177.5 microseconds.
The results for smallArray: insert was 63.6 microseconds and append was 153.5 microseconds.
The results for tinyArray: insert was 43.1 microseconds and append was 110.8 microseconds.

I see the smaller the project it doesn't matter the size of the array. But once you start getting bigger, append works a lot faster. Insert does not scale well, the larger the array is that much longer it will take. The append scales much better while the insert jumps up really high once you got to a large array the append didn’t jump up much in terms of time. By looking at the graph and seeing the time you can see how much each scale.