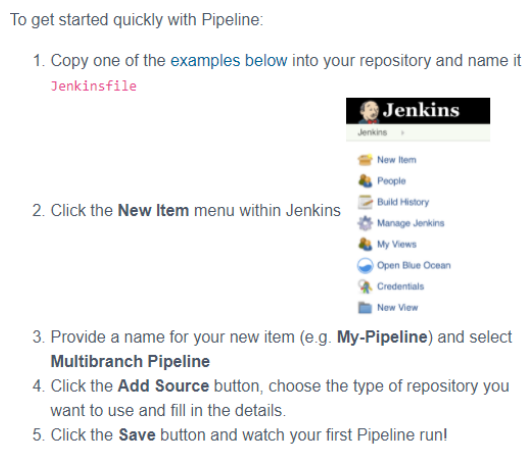
Alternative Tool Research

Continuous Integration tool: Jenkins

Jenkins is a free local application used for continuous integration. It is easy to install because of its included packages for windows, unix, and os.

1. Getting Started Instructions:
    - On the Jenkins website there is a ton of documentation on the tool and detailed step by step instructions for getting everything downloaded and setup. I found a guided tour to help familiarize myself with the functionality and capability of this tool.
    - They have a quick start tutorial with instructions and demo code to get you up and running extremely quickly. They include this demo code for many different languages including node.js.
    - By following this link https://www.jenkins.io/doc/pipeline/tour/hello-world/#examples You can get started implementing the tool and explore its features.
2. Jenkins info:
    - Jenkins was first released in 2011
    - The ci tool seems to be very widespread, and Id say its firmly on the top 5 list of most popular ci tools.
    - Jenkins has over 200,000 downloads and is the most widely used ci tool
    - This is a list of big name companies that have reported to currently use Jenkins: Facebook, Netflix, Udemy, Instacart, Robinhood, Twitch, Lyft, and Delivery Hero.

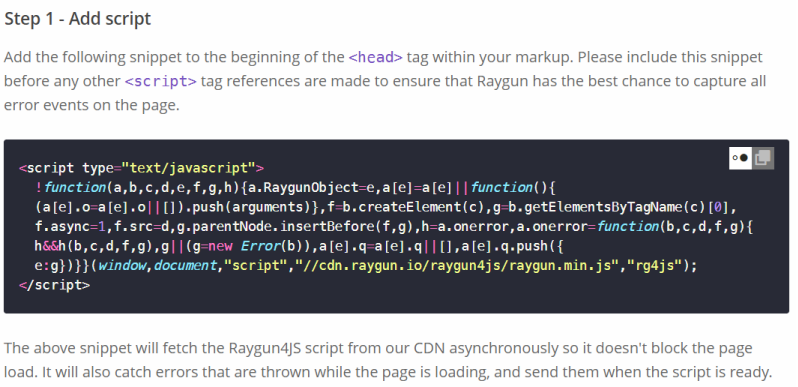


Real Time Error Monitoring Tool: Raygun

Raygun is a real time monitoring tool used to detect, diagnose, and resolve bugs in your code. Although the too is not free, it seems to be one of the most popular available, next to rollbar which we used earlier in the week.

1. Getting Started Instructions:
    - The getting started documentation seems to be thorough and well laid out. It is all broken down by languages to give you the exact instructions you need to get up and running, without having to sort through to find your languages specific instructions

- Raygun offers step by step setup code with instruction on where to place it on your page to make sure you are capturing all the data possible



Step 1 - Add script

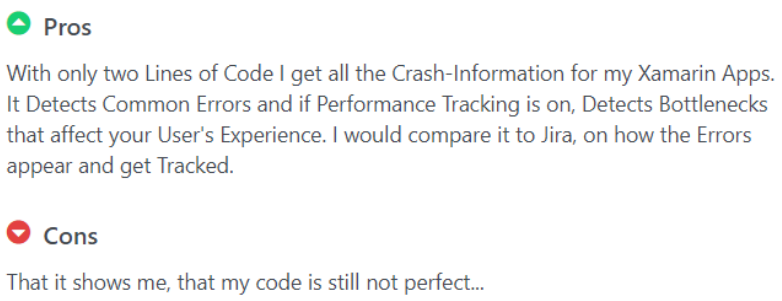
Add the following snippet to the beginning of the <head> tag within your markup. Please include this snippet before any other <script> tag references are made to ensure that Raygun has the best chance to capture all error events on the page.

```
<script type="text/javascript">
  !function(a,b,c,d,e,f,g,h){a.RaygunObject=e,a[e]=a[e]||function(){
  (a[e].o=a[e].o||[]).push(arguments)},f=b.createElement(c),g=b.getElementsByTagName(c)[0],
  f.async=1,f.src=d,g.parentNode.insertBefore(f,g),h=a.onerror,a.onerror=function(b,c,d,f,g){
  h&&h(b,c,d,f,g),g||(g=new Error(b)),a[e].q=a[e].q||[],a[e].q.push({
  e:g})}}(window,document,"script","//cdn.raygun.io/raygun4js/raygun.min.js","rg4js");
</script>
```

The above snippet will fetch the Raygun4JS script from our CDN asynchronously so it doesn't block the page load. It will also catch errors that are thrown while the page is loading, and send them when the script is ready.

- They also have links to different product guides to help you with the specific product you decided to choose found here: https://raygun.com/documentation/product-guides/crash-reporting/introduction/. I will say that there is a ton of resources to sift through and fully understanding all the features available to you would take a good amount of time.

2. Raygun Info:
    - Raygun started in 2007, but I don't think it's monitoring and tracking features were as extensive until around 2019.
    - The base price is only $4 a month
    - Here are some of the big companies currently using Raygun: CocaCola, Domino's, HBO, Microsoft, JustGiving, and Automile.
    - I found the following review that sums up the customer experience using Raygun nicely



Pros

With only two Lines of Code I get all the Crash-Information for my Xamarin Apps. It Detects Common Errors and if Performance Tracking is on, Detects Bottlenecks that affect your User's Experience. I would compare it to Jira, on how the Errors appear and get Tracked.

Cons

That it shows me, that my code is still not perfect...