

Group 1 Task 3 Concept Description

WordPress Website Monitoring

What Does This Concept Do?

This concept monitors if a set of WordPress websites created by a management server are still running and notifies the web master when they are not with a description of the problem.

What Is a Use Case of This Concept?

A use case of this implementation is, as a hosting company, managing their client's WordPress websites to ensure that they are running, so that in the event that they go down for whatever reason the hosting company can rectify the situation.

How Does This Relate to DevOps?

An important practice of DevOps is system monitoring, which helps to understand and pinpoint system failure, as well as analyse it to understand what caused it to fail. Our Concept involves automating the process of continuously monitoring the status of our web systems for system failure and directly notifying the webmaster of any errors with a description to aid system recovery.

How Can This Be Implemented?

This can be implemented by keeping a record of each server created by the management server, then using a tool that repeats commands at a time interval, like a cron job, checking each recorded client website to confirm they are running and sending an email with a description of the problem to the webmaster if they are not.

What Are the Challenges?

One of the challenges is determining a way to verify that a WordPress website is perceivably running correctly from the frontend which in an ideal world would also include the entire network of pages of the WordPress website, to do that you would either have to preinstall a WordPress plugin that generates a sitemap for the website on each new instance, or have a method of crawling only internal links without crawling the same link twice. Another challenge is reliably sending email that doesn't end up in the junk box, mail servers are inconsistent with their rules a reliable smtp service would have to be used to avoid being flagged as spam.

What Have We Implemented?

What we have implemented is when the management server creates a new WordPress website for a client, it tags it within AWS. Then, using a cron job which runs a command at a predetermined time, the management server runs an Ansible playbook that takes the public IP of each tagged WordPress website and checks that the homepage is up, e.g. not a 4xx or 5xx error on the homepage, and if it comes back as running then it checks all of the links on the homepage for a 4xx or 5xx error. If any errors are found for the homepage or the broken link, the management server sends an email to the webmaster's elected email.

How Could We Improve Our Implementation?

This implementation could be improved by checking more than just 4xx and 5xx errors to determine whether or not a WordPress website is still running, such as the full range of code errors and other contextual errors like critical resources not loading, the admin dashboard being broken, wp-config error, etc. Our implementation also only checks the homepage and all of its child links, this could be extended to check every page on the website with a method like we suggested in our challenges section. The final improvement would be using a mail server to send the email, as our AWS plan didn't allow us to use Amazon SES or Amazon WorkMail which could have been used to secure the email and have it land in the inbox instead of the junk more reliably.