Choosing DevOps Concept for SuperMap Online

-SuperMap Online with DevOps

SuperMap Online (www.supermapol.com) is the first online GIS platform providing GIS cloud mainframe business in China, which can realize GIS data online hosting and applying. As an internet product, SuperMap Online needs to develop and publish new functions meanwhile ensuring the stability and reliability of the website. But how to make sure SuperMap Online can function smoothly? The secret is DevOps concept, letting public GIS cloud deploy and deliver.

What is DevOps?

DevOps (Compound of Development and Operations) is a cooperation culture, event or tradition which focuses on software developers and IT operation. we can see DevOps as the intersection of software development, technical operations and quality assurance. DevOps covers the processes of code development, constructing, testing, publishing and deploying, feedback. DevOps is the concept that makes consistently delivering possible, focusing on the improvement on development efficiency and productivity for everyone.
SuperMap Online with DevOps

1) Agile development and continuous integration based on platform software

SuperMap GIS platform software, basing on agile development concept, constructed complete agile development and quality assurance system, covering the R&D processes of new product development, Scrum (team management), quality control and continuous integration. SuperMap Online, as an online internet product, is different from GIS platform software. There are more requirements in the deployment, mainly include: non-stop ‘online’, monitoring, backup and reversion.

Therefore, to realize the continuous delivering in SuperMap Online production environment, continuous deployment, monitoring, backup and reversion also need attention besides the continuous integration.

2) Continuous deployment based on public cloud

The automatic deployment based on cloud environment has ensured the basic security and used the high-extensibility, high-usability and low cost of cloud. Meanwhile, the deployment based on cloud environment itself is self-served, which allows shortening the deployment circle, making deployment more continuously and frequently. SuperMap Online itself is based on public cloud platform (Aliyun), therefore, public cloud environment has become the priority choice for continuous deployment.
3) Automatic deployment test and beta test before online

As an online product, the automatic test of SuperMap Online includes 2 parts: first part, automatic deployment test of uploading, constructing, operating with source code, letting every upload of code can trigger a construction/testing. Second part, to verify if the website functions, the usability test on the website will also be taken place.

Using ‘mirror’ website (itest) for the beta test is to deploy the new functions, changed deployment to ‘mirror’ website through automatic process before deploying on SuperMap Online. Only after the beta test in the mirror website (automatic VT + manual) can automatically deploy the new functions and changes to SuperMap Online website.

4) Continuous monitoring and log system

SuperMap Online is deployed on public cloud platform, directly using cloud platform to monitor the resources of SuperMap Online, like CPU, memory, IO and network traffic.

SuperMap Online chooses ELK (Elastic Search + Log stash + Kibana) to realize log statistics and visualization, through the log of consistent recording, processing, managing, analyzing and integrating processes, the stability, security of the website can be ensured.

Conclusion

SuperMap Online uses DevOps to make the better cooperation between product development and maintenance, realizing constant deployment in the public cloud environment. With this foundation, through constant monitoring and log system, along with feedback mechanism, truly realized constant and high-effective delivering of website.