Standing Up Your Own Notify.gov

A high-level primer on what it takes to bootstrap one's own Notify.gov

Summary

Notify.gov is an open source one-way notifications service, built to help government organizations send text messages. It consists of:

- An application programming interface (**API**) that sends messages
- An **Admin** website that provides a front-end interface in a web browser

The Notify.gov service is adapted from the United Kingdom's Notify Service, and is designed to be a platform that can support multiple organizations and cost recovery. The code base can also support use cases within individual organizations; VA Notify at the United States Department of Veteran Affairs is an example of this. This primer explains the requirements to set up your own notifications service using this code base. Detailed technical documentation is also available, but this document covers:

- High level technology requirements
- Team member skills
- Where to find more information

High level technology requirements

Notify.gov is designed to run specifically on Cloud Foundry and uses many parts of Amazon Web Services (AWS), specifically, SNS for text messaging and SES for email. It also uses an egress proxy, which is a web server that sits in front of the application itself to block network traffic from leaving the application to sources it shouldn't.

To begin with the same approach we used, you can run your own one-way notifications service using the Notify.gov code base in a cloud-based environment, if you have access to:

- An online computing environment that supports Python web applications and is accessible to your users
- Database (like PostgreSQL) to manage your data

- Key/value data store (like Redis)
- Storage volume (like AWS S3)
- A software service that can provision phone numbers (such as toll-free numbers, 10DLC, short code) to send SMS messages from (like AWS SNS and AWS Pinpoint)
- A logging mechanism or service that can capture the delivery receipts of the SMS messages (like AWS CloudWatch)
- A service or the capability to send emails for user invitations (for example, AWS SES)

Important: you can run the applications on a regular server, but adjustments to how the application manages its infrastructure will need to happen.

Managing your own application

To make managing the project and deploying the applications easier, we recommend the following:

- Software version control (like in git and GitHub)
- Automated continuous delivery/continuous integration (CD/CI) (like GitHub Actions)
- Infrastructure as code support (such as Terraform)

Team member skills

Gather people with these relevant job titles, because they'll have the relevant skills to build, run, and improve your version of Notify.

For the notifications **API**:

Relevant Job Titles	Team Member Skills
● Backend software engineer ● Full-stack software engineer (who can work on frontend and backend)	● Python web application development (using Flask and SQLAlchemy) ● Cloud-based infrastructure development and service management (using tools like Terraform, AWS, and AWS APIs like boto3) ● Database design and management ● Managing software version control (with tools like git and GitHub) ● QA and regression testing

• DevOps software engineer	• Building automated CI/CD pipelines for code scanning, QA testing, and deployment • Managing software version control (with tools like git and GitHub)
• Cybersecurity engineer	• Incorporating and responding to cybersecurity and privacy measures

For the **Admin** interface to send messages, you'll need these types of people in addition to those for the API:

Relevant Job Titles	Team Member Skills
• Frontend software engineer • Full-stack software engineer (who can work on frontend and backend)	• Python web application development (using Flask) • JavaScript/HTML/CSS development for the Admin UI interface • Managing software version control (with tools like git and GitHub) • QA and regression testing
• Content designer • Communications specialist • Technical writer	• Content • Design
• UX Designer • UX researcher	• User experience

Where to find more information

For more technical details, please see our GitHub repositories:

- Notify.gov **API** GitHub repository – This is the underlying application that makes it all work
  - README instructions to setup, run, and work on the **API**
  - Full **API** application and team documentation
- Notify.gov **Admin** GitHub repository – This is the main website where system users manage their messages (which requires the notifications API)
  - README instructions to set up, run, and work on the **Admin** site
  - Full **Admin** application and team documentation

Reminder: it is also possible to use only the **API** service if you'd like to add messaging to an existing system.