A URL shortener

Your task is to build an application using a language or languages of your choice which creates short URLs from long ones.

Background

We often run into situations where long URLs aren't easy to email, tweet, or otherwise send to others. The most basic function of a URL shortener is to take long URLs as input and give shorter ones in return.

The design of URL shorteners presents a number of challenges, and we look forward to seeing how you address them.

What you'll build

1. A RESTful web service that allows users to POST a URL and receive a short URL in return, or GET a short URL and be redirected to the original long URL.
2. A web app for users to access the service's features.

The details

* the service should be easy to deploy in the cloud (AWS, Heroku, or similar)
* use a language of your choice to build the service; feel free to use additional libraries as needed
* use a database of your choice to store the service's state
* take as much time as you need to complete the assignment, but somewhere between 3 and 6 hours of time sounds about right
* if you have any questions about the assignment, please contact me.

Showing off!

To show off your vision and mastery of the assignment, add some additional features and capabilities. Here are some suggestions in no particular order, but please don't hesitate to surprise and delight us.

* tailor the service to protect privacy, since som e users require anonymity
* provide an IDE integration, chat bot, and/or fancier web app enabling richer access to the service
* create a facility for backing up, mirroring, and/or archiving the URLs
* package the service as a deb, container, gem, or some other format for easy deployment
* include preventative measures against use of the service for nefarious purposes such as fraud, distribution of malware, or coordination of a bot net
* document the service such that a junior developer or an advanced student with little knowledge of the language you used or of web services can understand its design and become better educated