

Flask Routing Open Source Report

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Code Repository	<ul style="list-style-type: none">• Flask: https://github.com/pallets/flask/• werkzeug: https://github.com/pallets/werkzeug
License Type	<ul style="list-style-type: none">• Flask: BSD-3-Clause Source License• werkzeug: BSD-3-Clause License
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Who worked with this?	Tariq, Sungho Ahsan

flask.route()

Purpose

What does this tech do for you in your project?	This method handles the URL route registration for the server.
Where specifically is this tech used in your project?	<p>This is used in <code>/flask_server.py</code> (https://github.com/rdstrach/CSE312_Group_Project/blob/main/flask_server.py) to route the following paths:</p> <ul style="list-style-type: none">• <code>'/'</code>• <code>'/text_messages'</code>• <code>'/login'</code>• <code>'/register'</code>• <code>'/settings'</code>• Others as they get added.

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Documentation	<ul style="list-style-type: none"> • https://flask.palletsprojects.com/en/2.1.x/api/#flask.Flask.route • https://flask.palletsprojects.com/en/2.1.x/api/#url-route-registrations
How does this technology do what it does for you in the Purpose section of this report?	<ul style="list-style-type: none"> • The following methods are part of the Scaffold class in flask/src/flask/scaffold.py that sets up the structure for defining routing behavior • This class implements a new TypeVar "F" from 'import typing as t' that is bound to a callable type: F = t.TypeVar("F", bound=t.Callable[..., t.Any]). • The self.route() method takes in self, the URL rule as a string, various options as parameters (ex. method options that defaults to "GET" but can specify other requests like "POST"), and returns a type "F" as defined in the file. • These are then passed to the decorator method that takes in and returns type "F", which then determines the endpoint from the options argument, and further passes the rest of the arguments down the chain to self.add_url_rule() • The self.add_url_rule() takes in self, the URL rule as a string, an optional endpoint as a string, an optional view function options as a type Callable, optional provide automatic options flag as a boolean, and the various options passed in self.route(). This method returns None.

	<ul style="list-style-type: none"> • The self.add_url_rule() registers the rule for routing incoming requests and building URLs by associating the endpoint name with the URL rule and view function of type “F” along with the various options passed through the call. • It will raise an error through ‘raise NotImplementedError’ if a function has already been registered for the endpoint.
Where is the specific code that does what you use the tech for?	<ul style="list-style-type: none"> • class Scaffold: https://github.com/pallets/flask/blob/a03719b01076a5bfdc2c8f4024eda7b874614bc1/src/flask/scaffold.py#L61 • F: https://github.com/pallets/flask/blob/a03719b01076a5bfdc2c8f4024eda7b874614bc1/src/flask/scaffold.py#L36 • route(): https://github.com/pallets/flask/blob/a03719b01076a5bfdc2c8f4024eda7b874614bc1/src/flask/scaffold.py#L414 • add_url_rule(): https://github.com/pallets/flask/blob/a03719b01076a5bfdc2c8f4024eda7b874614bc1/src/flask/scaffold.py#L446

flask.redirect()

Purpose

What does this tech do for you in your project?	This method handles the URL route redirection for the server.
Where specifically is this tech used in your project?	<p>This is used in /flask_server.py https://github.com/rdstrach/CSE312_Group_Project/blob/main/flask_server.py) to redirect the following paths:</p> <ul style="list-style-type: none"> • '/text_messages' to '/'

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Documentation	<ul style="list-style-type: none"> • https://flask.palletsprojects.com/en/2.1.x/api/#flask.redirect • https://flask.palletsprojects.com/en/2.1.x/quickstart/#redirects-and-errors • https://tedboy.github.io/flask/generated/werkzeug.redirect.html
How does this technology do what it does for you in the Purpose section of this report?	<ul style="list-style-type: none"> • The class flask carries over flask.redirect() from werkzeug.redirect() originating from the werkzeug class. • werkzeug.redirect() returns a WSGI Response object that redirects clients to that target location, with supported codes 301-303, 305, 307, 308. • In werkzeug.redirect(), the returned Response Object is built with set information, and the html escaped argument location is written to the "Location" header of the Response object
Where is the specific code that does what you use the tech for?	<ul style="list-style-type: none"> • werkzeug.redirect(): https://github.com/pallets/werkzeug/blob/c7ae2fea4fb229ffd71187c2b665874c91b96277/src/werkzeug/utils.py#L242