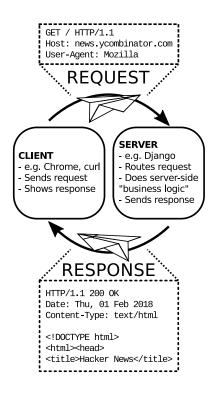
REQUESTS & RESPONSES



PYTHON REQUESTS

API TERMINOLOGY

API The interface that software uses to communicate with other computers or software. REST APIs are the most popular, and use HTTP requests and responses to exchange data or perform actions.

API Key / Secret "Username" and "password" for APIs that need it.

HTTP METHODS

GET Retrieve information

POST Create a new item

PUT Update an existing item

DELETE Delete an item

TERMINOLOGY

Protocol Agreed-upon "routine" for computers talking to each other

IP address Internet Protocol address, a "phone number" for computers

Domain name E.g. google.com, a mnemonic that's turns into the IP address of a server

TCP The way computers "call each other up" and send data to each other over the internet (transmission control protocol)

HTTP A protocol where a *client* uses TCP to connect and send a *request*, containing a particular *method* and *path* to a *server*, which in turn replies with a *response*.

Headers & body Requests and responses both are split into extra info (headers), and data (body).

Method The first text in the request, conventionally is one of 4 words in all caps. The backend gets to decide how to process different HTTP methods differently.

Advanced Python

Try / except exceptions Handle or ignore errors.

```
a = [1, 2]
try:
    lucky_13 = a[13]
except Exception as e:
    print("It broke:", e)
```

List comprehension Like a for-loop, but also creates a new list

```
names = ["John", "Paul", "G"]
long_names = [
    n.lower() for n in names
    if len(n) > 2
] # = ["john", "paul"]
```

Unpacking assignment Can assign to two or more at once, in both loops and elsewhere

```
pairs = [(10, 5), (8, 100)]
for left, right in pairs:
    print(left * right)
x, y = [35, 15]
```

Variable length arguments "Catchalls" for positional or named args.

```
def do_all(*args, **kwargs):
    print(args, kwargs)
    return sum(args)
do_all(3, 5, b=3)
```

DJANGO ROUTING

from django.urls import path

```
from django.http import HttpResponse
def hi_world(request):
    # Simplest view: Just respond
    # with string, no templating
   return HttpResponse("Hi world!")
def about_me(request):
    # Context dictionary: Variables
    # that go into the template
    ctx = {
        "name": "Ash Ketchum",
    # render: Do templating with
    # qiven context variables
    return render(
        request, "about.html", ctx)
# urlpatterns connects URLs to
# view functions.
urlpatterns = [
   path("hello-world/", hi_world),
    path("about-me/", about_me),
```

HEROKU

```
heroku create # Create a new app
git remote -v # Check git remotes

# Launch/update site via git push:
git push heroku master
heroku open # View your web app
heroku logs # Debug (view output)

# Lesser used:
heroku local # Test Procfile
heroku config # Inspect environment
heroku ps:exec # Start Heroku bash
```

Mini-Django Boilerplate

minidjango Our boilerplate to get you started on small web apps .

Procfile Tells Heroku how to start.

Pipfile Contains PyPI dependencies.

static/ CSS, images, and JS go here.

templates/ HTML templates go here.

urls py Contains "routing": Matche

urls.py Contains "routing": Matches paths (eg urls) to *view functions*.

views.py Contains "view functions", which do templating and send back responses based on requests.