



## Software Engineering Immersive Course: Project 4 - Django + React App

# Ringers



## Brief

Build a full stack app by making your own front and back end using a Python Django API. The app will most likely have multiple relationships and CRUD functionality for at least a couple of models.

Timeframe: 1 week, independent coding

## Summary

Ringers is a full stack app for sourcing team players at the last minute. I used Python and Django REST Framework to serve my data from a Postgres database (visualised in TablePlus,) and React on the front end. The app has multiple relationships and CRUD functionality.

## Deployment

### Installation Instructions

To run the app from the source code, use the clone button to download the source code from GitHub. From the root directory type "yarn", "yarn seed" and "yarn start" in the terminal. The project will run on localhost:4000, and will be viewable on any web browser.

## Technologies & Methodologies Used


- HTML 5
  - CSS 3
  - Bulma
  - SASS
  - JavaScript (ES6)
  - React.js
  - React Router
  - Python
  - Django
  - PostgreSQL
  - Webpack
  - Yarn
  - Insomnia
  - Adobe Illustrator
  - Adobe Photoshop
  - Wireframes
  - MVC Architecture
  - Authentication
  - RESTful APIs
  - CRUD Functionality
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## Features

- navigation bar with different page links when signed in/out
  - All posts page that shows all rings needed with the date time and location
  - Users can log in to create, edit and delete their own posts (add screenshots of index and show page, create)
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## Website Architecture

(Home Page at top of page)

Index Page to follow when deployed 

Ringers

All PostsPost for a RingerLogout

New Post

Name of Post:

e.g. Nippy Netballer Needed

Sport Name:

Pick a Sport

Location Name:

e.g. Clapham Common

Address:

e.g. 10 Rookery Road, Clapham Common, London, SW4 9DD

Date:

e.g. in format YYYY-MM-DD

Time:

e.g. in format HH:MM

Position:

e.g. center

Number of Players Needed:

e.g. 2

Team Name:

e.g. The Fulham Footballerzzz

Image:

e.g. http://bit.ly/2QZzGbm


Submit Request for Ringer(s)

Show Page

Ringers

All PostsPost for a RingerLogout

Huringham Cricket



Location

Hurlingham Club  
Fulham, London, SW6 3PR

Date

2020-06-20

Time

18:00:00

Position

any

Number of players needed

3

Click to contact the Champions

Add a Ringer Request

Approach

Day 1

One of the nice things about this brief was that we had the option to work in a group or individually. Project 3 was a group project and I wanted to check that I was able to go through the all motions myself before leaving the course so I opted to go it alone.

We were told this should be the most ambitious project to date so I spent way too long brainstorming and deciding on what to build. But came up with lots of ideas which I will likely try and build after the course.

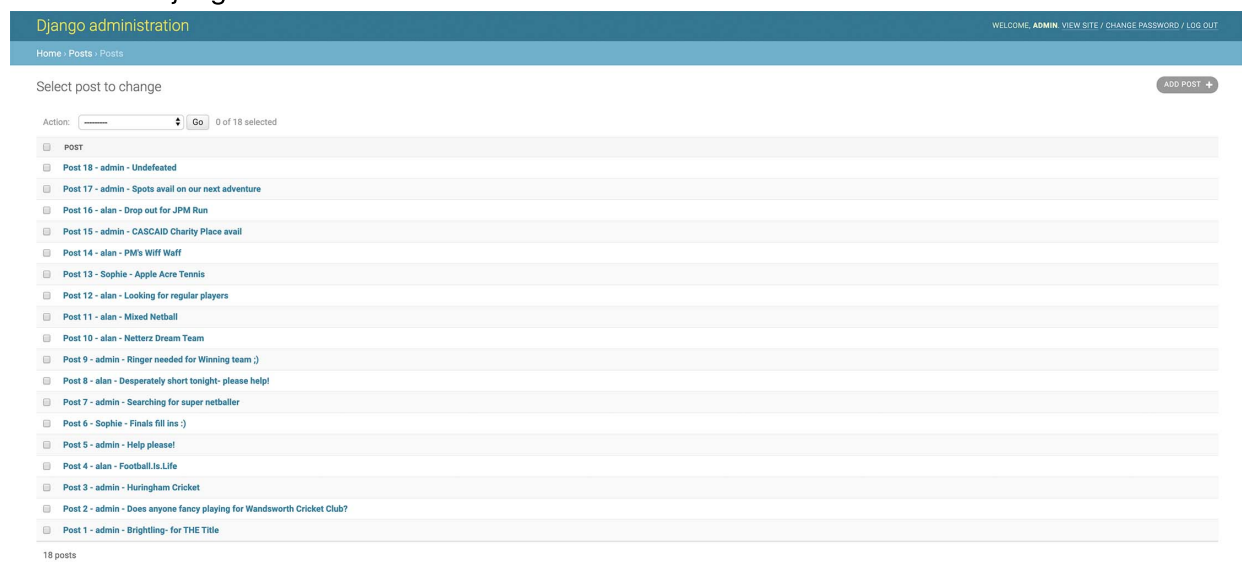
## Day 2

After discussing my ideas with a few people in class, I decided to go with Ringers as it seemed most fitting with the CRUD functionality and the MVP seemed most achievable in the timeframe.

I started building the backend. I found it pretty inflexible, for example, when I needed to add or change the name of the fields in the model this caused errors and time fixing the errors. Initially set me back so far with time that I started the build from scratch.

Created models, serializers and hooking up the urls.

I liked that Django had it's own inbuilt version of Insomnia.



## Day 3

I used insomnia and table plus to check everything was working on the back end.

```
GET base_url/posts 200 OK TIME 515 ms SIZE 9.3 KB Just Now
```

```
{
  "id": 1,
  "attention_grabber": "Brightling- for THE Title",
  "location_name": "Brightling Park",
  "address": "Brightling, Robertsbridge",
  "lat": 50.9632554,
  "lon": 0.393528,
  "date": "2020-06-01",
  "time": "10:00:00",
  "position": "any",
  "team_name": "Moggy",
  "post_image": "https://imgur.com/nTKiOK7",
  "number_of_players_needed": 5,
  "owner": {
    "id": 1,
    "username": "admin",
    "profile_image": "",
    "email": "admin"
  },
  "comments": [],
  "sport_name": {
    "id": 2,
    "sport_name": "Cricket"
  }
},
{
  "id": 2,
  "attention_grabber": "Does anyone fancy playing for Wandsworth Cricket?",
  "location_name": "Wandsworth Park",
  "address": "Putney Bridge Rd, London SW15 2PA",
  "lat": 51.4623282,
  "lon": -0.2956369,
  "date": "2020-06-01",
  "time": "18:00:00",
  "position": "any",
  "team_name": "Undecided",
  "post_image": "https://imgur.com/LCBE4JE",
  "number_of_players_needed": 5,
  "owner": {
    "id": 1,
    "username": "admin",
    "profile_image": "",
    "email": "admin"
  },
  "comments": [],
  "sport_name": {
    "id": 2,
    "sport_name": "Cricket"
  }
},
{
  "id": 3,
  "attention_grabber": "Hurlingham Cricket",
  "location_name": "Hurlingham Club",
  "address": "Fulham, London, SW6 3PR",
  "lat": 51.4666873,
  "lon": -0.2529557,
  "date": "2019-11-25",
  "time": "20:00:00",
  "position": "any",
  "team_name": "Rocks Lane Multi Sports Centre",
  "post_image": "https://imgur.com/vKtOVt8",
  "number_of_players_needed": 5,
  "owner": {
    "id": 1,
    "username": "admin",
    "profile_image": "",
    "email": "admin"
  },
  "comments": [],
  "sport_name": {
    "id": 2,
    "sport_name": "Cricket"
  }
}
```

## TablePlus

id	attention_grabber	location_name	date	time	position	address	num
1	Brightling- for THE Title	Brightling Park	2020-06-01	10:00:00	any	Brightling, Robertsbridge	
2	Does anyone fancy playing for Wandsworth Cricket?	Wandsworth Park	2020-06-01	18:00:00	any	Putney Bridge Rd, London SW15 2PA	
3	Hurlingham Cricket	Hurlingham Club	2020-06-20	18:00:00	any	Fulham, London, SW6 3PR	
4	Football Is Life	Rocks Lane Multi Sports Centre	2019-11-25	20:00:00	any	60 Chiswick Common Road, Chiswick, London, W4...	
5	Help please!	Battersea Park	2019-11-28	18:00:00	C	Carriage Dr E, Park, London SW11 4NJ	
6	Finals fill ins :)	Rocks Lane Multi Sports Centre	2019-11-21	20:00:00	GA, GK	60 Chiswick Common Road, Chiswick, London, W4...	
7	Searching for super netballer	Parsons Green	2019-11-25	18:00:00	WA	South Park Peterborough Road Fulham SW6 3HH	
8	Desperately short tonight- please help!	Battersea Park	2019-11-28	19:30:00	GD, WD	Carriage Drive East, Battersea Park, London, SW11...	
9	Ringer needed for Winning team :)	Clapham Common	2019-11-28	18:30:00	GS	10 Rookery Road Clapham Common London SW4 9...	
10	Netterz Dream Team	Rocks Lane Multi Sports Centre	2019-11-25	20:00:00	any	60 Chiswick Common Road, Chiswick, London, W4...	
11	Mixed Netball	Rocks Lane Multi Sports Centre	2019-11-25	19:00:00	any	60 Chiswick Common Road, Chiswick, London, W4...	
12	Looking for regular players	Barnes RFC	2020-01-25	19:00:00	any	Barnes Rugby Football Club	
13	Apple Acre Tennis	Apple Acre	2019-05-25	19:00:00	any	Bull Lane, Broughton, Cambridgeshire, PE28 3AP	
14	PM's Wiff Waff	Ping	2019-01-25	19:00:00	any	180-184 Earls Ct Rd, Earls Court, London SW5 9QG	
15	CASCAID Charity Place avail	Hyde Park Corner	2019-01-21	20:00:00	any	London W1J 7NT	
16	Drop out for JPM Run	Battersea Park	2019-01-15	18:00:00	any	Battersea, London SW11 4NJ	
17	Spots avail on our next adventure	Blaritz	2020-10-15	08:00:00	any	1 Avenue de la Plage, 64200 Biarritz, France	
18	Undefeated	The Crystal Maze LIVE Experience - West End	2020-11-03	20:00:00	any	22 - 32 Shaftesbury Ave, London W1D 7EU	

Added nesting to the db as we had in the example in class, later I realised this wasn't the best way to do this so re wrote this on day 4 & 5.

I found making migrations particularly difficult.

## Day 4

Added seeds. Found reseeding difficult. Lived in fear of accidentally deleting everything. Added edit and more fields to the default user model. Added forms and error handlers

## Day 5

Added a front end. Feels a bit foreign having not looked at React for a couple of weeks. Added Bulma styling initially as worried about for speed but keen to do my own CSS Deliberate over

this for 24 hours. Should have added forms after adding Bulma.

## Day 6

Work on Authentication. Toggle nav bar so it only shows relevant when logged in/out. Delete and edit button only for user who created.

## Day 7

Attempted to hook up assets file to show images then learnt it is best practise to host externally so used imgur. Tried saving images for seeds in assets files then had a CORBs issue.

"Cross-Origin Read Blocking (CORB) blocked cross-origin response with MIME type text/html. See for more details."

Test and fix bugs. Work more on last minute styling.

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## Takeaways

As it happened this exposed the gaps in my knowledge. I spent too much time adding elements to the back end that I didn't get as far as needing on the front end. I didn't leave nearly enough on the front end so struggled to finish on time.

Overall, I was really impressed by the speed in which it was possible to create the back end using Django. There was lots of setup required (creating the virtual environment, running PostgreSQL, installing Django Rest Framework etc.) and it was important to complete the steps in order but I think I will become more comfortable with that over time. Initially I was thinking of adding comments so built this into the back end and started building it in the front end but thinking about it - it didn't make sense users to be able to comment- better to force them to email.

All in all I enjoy using python as the code looks much clearer without the brackets and with the indent format. Also loving the additional built in functionality. I found it frustrating using Django as it was quite rigid and the setup is very specific -didn't allow any room for error for a junior so I was frustrated by how long something that seemed like following a recipe on paper, took me.

I need to focus on keeping the MVP super simple and adding in styling much earlier so I can visualise the priorities.

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## Challenges Overcome

- Setting up in Django
- Linking to the front end
- Seeding and migrations
- Toggling the navigation bar
- Manipulating Bulma (responsive design)
- Allowing only hosts to edit and delete their posts
- Adding contact email links

## Challenges Still To Overcome

- Using Imgur to show images
  - Pre populating the edit form
  - Getting the styling to a place I'm happy with
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## Future Improvements

- Add Mapbox to visually locate events nearby
  - User can search for events by sport, location, date, time
  - Team pages with scores and stats
  - Player ratings with recommendations, positions, availability etc.
  - Book into leagues - payment system
  - Adding tests
  - Sending out alerts
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