

## **Job Assessment: Roster Expert / Backend Developer (PHP)**

### **Company Product**

RosterBuster is the #1 airline crew app in the world with more than 300.000 professional users (pilots and cabin crew) and almost 500 airlines supported, from British Airways to Air India.

RosterBuster is a disruptive app, designed from the ground up for airline crew needs. The app keeps airline crew up-to-date with their job: airline roster, duty details, gate info, 3D airport views, share with friends and family, statistics, block hours, chats, layover meet-up, logbook export, calendar and lots more. More information about the product can be found in the AppStore or Playstore.

<https://play.google.com/store/apps/details?id=com.rosterbuster&hl=nl>  
<https://itunes.apple.com/us/app/rosterbuster-airline-crew-app/id1035558169?mt=8>

### **Assignment Context: Air India**

One of the main features of RosterBuster, is the ability to load the roster with your month's planning of duties. Since this product is in the aviation space, there are specific duties on this roster.

Airline crew upload their raw roster data to our service (pdf, excel, txt, html or webcal files). The business logic which we maintain per airline roster system is capable of extracting and parsing the relevant data from the raw roster data into our normalized models.

The following duties can e.g. appear on a roster.

- Day Off - Not scheduled to work.
- Report Event - Start for a day of working. A day can have multiple flights.
- Flight Events - Flight from Departure Airport to Arrival Airport
- Debrief Events - End for a day of working.
- Layover Events - When you sleep at a Arrival Airport and fly out later.
- Simulator / Training Events - Training Course
- Standby Events - On reserve duty. Can be called by the airline any time.

### **Important to know:**

- All information on the roster is important and relevant to the end-user.
- The roster can be published in different time zones. Check the roster's header for the timezone it is published in (in our case: UTC).

## The Assignment

See below a screenshot of a roster for Air India crew. We have attached the source html.

Create a standalone PHP program, executable from command line, which:

1. Extracts all **flight duties** from the provided source HTML.
2. Transforms the extracted data into 'Flight' models.
3. Outputs the result as JSON to the console or browser.
4. Validates the output with a test

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**SEE DOCUMENT**

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## How to read the provided roster?

For example on the 9th of June, there is a **flight duty**. This duty should be translated to a flight model, as follows:

- Flight Number: 8274
- Report Time: 4:00
- Departure Time: 5:00
- Departure Airport: MAD
- Arrival Time: 7:00
- Arrival Airport: LGW

We expect a list of flight model objects in json. Check: there should be 38 flight duties on the roster. Other information on the roster may be ignored, but we appreciate it if you manage to extract other information from the roster's source, e.g. Day Off (D/O).

Aside from the end result, what is most important to us is that the code you provide is **clear**, **readable**, **maintainable** and **testable**. Can it be easily reused if there are variations on this roster, or if another Air India roster is provided?