



## TEST

This assignment replicates real problems we tackle and solve on a daily basis:

### 1st part:

1. Review the data which is available (see documentation) and write a short paragraph on how you would define candidate quality when applying to a job.
  - Additionally, describe what information you analyze when defining quality.
2. In average, what % of weekly applications are coming from qualified candidates based on your previous definition?
3. Each job has multiple variables from category, salary, type of job, etc. Define a ranking of what matters most to candidates based on their behavior shown so far.
4. Finally, can you say something about employer behavior when shortlisting (preselecting candidates)?

### 2nd part:

Obviously, a critical part of our work is to make sure that we show suitable candidates to employers and viceversa.

1. How would you approach this problem? Any ideas on which specific mechanisms could be implemented to make our matching as efficient as possible?

Write a small report with your conclusions and a short explanation of the findings and show any SQL queries or scripts (R or Python) you may have written to derive your results, graphs, etc.

# Data documentation

## Type of events

*Registration:* Registration of the user.

*Application:* The user, (a candidate) applies to a job or (an employer) gets a job application.

*Shortlist:* The user, (a candidate) gets shortlisted for a job or (an employer) shortlists a candidate for a job.

*Post:* An employer creates a new job listing.

*Chat\_new:* A chat between employer and candidate is open.

*message\_new:* A chat message is sent by candidate or employer.

## Tables

This is a brief description of the tables given which should allow you to do everything required, if you have questions about keys or need more context contact us.

### candidates

Master table for candidates

- *idUser:*  
unique id of the user.
- *isModerated:*  
status of the user (Approved, Rejected, out\_of\_zone, etc.)
- *gender*
- *firstApplication*
- *deviceType*
- *qty...:*  
Information about the number of times a candidate has applied, been shortlisted, interviewed for a job, etc.
- *createdAt:*  
Timestamp at which the candidate gets registered

### employers

Master table for employers

- *idUser:*  
unique id of the user
- *isModerated:*  
status of the user (Approved, Rejected, out\_of\_zone, etc.)
- *createdAt:*  
Timestamp at which the employer gets registered
- *idCategory:*  
Job category to which the employer belongs to

## candidate\_statistics

Master table for candidate events

- *idUser:*  
id of the candidate
- *city*
- *timeStamp:*  
timeStamp at which the event takes place
- *event:*  
Type of event (registration, application, shortlist, chat\_new, etc.)
- *category\_...:*  
candidates might choose in which job categories they are interested in (might be several ones, TRUE/FALSE columns)
- *deviceType*

## employer\_statistics

Master table for employer events

- *idUser:*  
id of the employer
- *employerCity*
- *timeStamp:*  
timeStamp at which the event takes place
- *event:*  
Type of event (registration, post, shortlist, chat\_new, etc.)
- *jobCity*
- *jobCategory:*  
If the event is a post, an application or a shortlist to a job. To which category the job belongs to.
- *idJob:*  
Unique id for the job related to the event.

## jobs

Master table for jobs

- *jobId:*  
Unique id for the job.
- *jobtype:*  
full\_time, part\_time, etc.
- *salary*
- *isModerated*
- *idCategory*
- *experienceName:*  
Required work experience for the job.

- *duration:*  
Job duration (permanent, temporary, etc.)
- *idUser:*  
Id of the employer that created the job.
- *createdAt:*  
timeStamp at which the job is posted.
- *qty....:*  
Information about the number of times the job has applied to, the employer has shortlisted for the job, etc.

### **candidate\_applications**

Master table for jobApplication events

- *idJobApplication:*  
Unique id for the jobApplication event.
- *idUser:*  
id for the candidate that applied to the job.
- *idJob:*  
id for the job.
- *salary*
- *salaryPeriod:*  
Type of salary (HOUR, MONTH, etc.)
- *positionName.*
- *categoryName.*
- *statusApplication:*  
Status of the application (active, inactive, etc.)
- *createdAt*
- *qty....:*  
Information about the number of times a candidate has applied, been shortlisted, interviewed for a job, etc.

### **job\_applications**

Master table for jobApplication events

- *updatedAt:*  
full\_time, part\_time, etc.
- *idJobApplication:*  
Unique id for the jobApplication event.
- *idUser:*  
id for the employer whose job was applied to.
- *idJob:*  
id for the job.
- *salary*
- *idPosition*

- *idCategory:*  
Category type of the job.
- *statusApplication:*  
Status of the application (active, inactive, etc.)

### **work\_experiences**

Work experience table for candidates

- *categoryName:*  
category of the job reported.
- *idUser:*  
id for the candidate.
- *createdAt:*  
timeStamp at which the row was created.
- *idCategory:*  
Category of the job reported.
- *idWorkExperience:*  
Unique id for the work experience row.
- *position:*  
Position held by the candidate.
- *duration:*  
Duration of the job.
- *withinDate:*  
Status of the job reported (currently working, position held within the last year, etc.)

Tables **ar\_internal\_metadata** y **schema\_migrations** should be ignored. Also, ignore the columns updatedAt.