

Conceptual model

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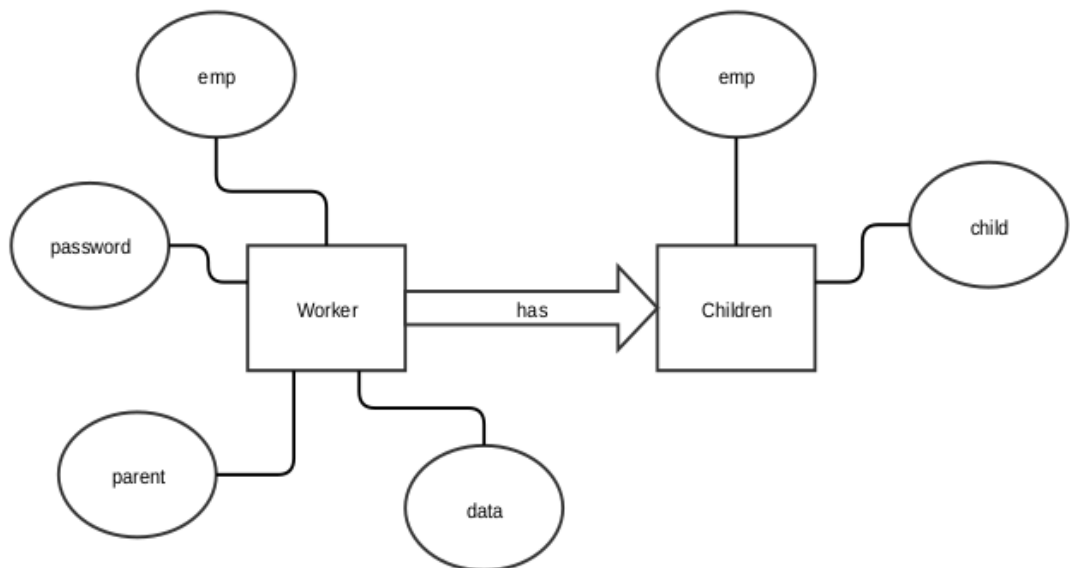
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1 E-R description

Both root and app have privileges to all the fields in the database. In the diagram we can see the following fields:

1. Workers
 - emp - id of worker
 - data - some data of/about worker
 - parent - id of worker's direct supervisor
 - password - password related with worker
2. Children
 - emp - id of worker
 - child - id of worker's direct subordinate

2 E-R Diagram



3 A brief description of API operations

The API should implement the following operations:

- root - creates a boss with no supervisor, need to add one worker to the Workers
- new - creates a worker with specified parameters, need to add one worker to the Workers and one child to the Children
- remove - removes specified worker and all of his subordinates (both direct and indirect). In fact, there is no need to remove indirect subordinates. Need to remove one worker from the Workers and his direct subordinates read from the Children
- child - lists all of the worker's direct subordinates - based on the Children
- parent - returns the worker's parent - based on the Workers
- ancestors - lists all of the worker's supervisors (both direct and indirect) - based on the Workers
- descendants - lists all of the worker's subordinates (both direct and indirect) - based on the Children
- ancestor - tells if the specified worker is direct or indirect supervisor of another specified worker - similar to ancestors operation, goes to the worker's parent, then to worker's parent's parent and so on. Ends when parent equals specified parent, otherwise returns false
- read - returns worker's data from the Workers
- update - updates worker's data from the Workers