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In our design we divided the dictionary into multiple sections. Each section contains 1000 words. Job tracker is used to spawn new thread every time a client makes a request. The thread will create many nodes under /jobs path in zookeeper. These nodes are named with the hash plus a number. The number correspond to a section within the dictionary. The worker will try and check if there are any nodes under /jobs path. If there are nodes under that path it means there are work to do. It will fetch a node under /jobs and parse out the number. The worker will then use the number to request for a portion of words from the file server. The worker will then proceed to try to find a match within the words the file server returned. Once it finishes looking through the words, it will delete the corresponding nodes under /jobs so no other worker will pick the same set of words. If password is found, it will create a node under /solved directory so that the client can find it. If all nodes under /jobs are deleted by workers but there still isn't a match, that means the password was not found.