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| --- | --- | --- | --- | --- | --- |
| Master | Worker 1 | Worker 2 | Worker 3 | Worker 4 | Description |
|  | P1, P2 | P1, P2 | P2 | P2, P3 | Initial Contents |
|  |  |  |  |  | Start Map  Master tells worker servers to start the map phase, providing the map function. |
|  | mapResult | mapResult | mapResult | mapResult | Workers Perform Map  Workers execute the map task and store their results in the mapResult file.  Then, they inform the master server that the map task has been completed.  If a worker server is not used, leave the box blank. |
|  |  |  |  |  | Start Shuffle  Master tells worker servers to start the shuffle phase. |
|  | shuffleResult | shuffleResult | shuffleResult | shuffleResult | Workers Perform Shuffle  Workers send the map results to each other, based on the hashcode of the key. Workers store these results in another file. Then, they inform the master server when they are done.  If a worker server is not used, leave the box blank. |
|  |  |  |  |  | Start Reduce  Master tells worker servers to start the reduce phase, providing the reduce function. |
|  | finalResult | finalResult | finalResult | finalResult | Workers Perform Reduce  Workers execute the reduce task, creating a new file with the final results of the map-reduce task.  Then, they inform the master server they are done, providing the file location of the result.  In this case, the file location is always the same for simplicity. |