This thesis implements one dimensional Parity-based Data Outsourcing (PDO) model, and compares the performance with the existing authentication techniques, Merkle Hash Tree (MH-tree) and Signature Chain. And also extend the technique PDO into multi-dimensional outsourcing. In this model, a set of parity data is associated with a set of raw data, and both sets of these data are distributed into a group of independent cloud servers. Users send their queries to these servers, and are allowed to perform both authentication and correction. Authentication contains two parts, soundness and completeness. The former one refers to that all the query result resulted have not been tampered, while completeness, all the data items have been returned if the query condition is satisfied. Correction is the capability to correct the data if it is malicious tempered. Compared with existing techniques, our model has the following advantages. First, the current techniques support only query authentication, but not error correction. Second, all the existing techniques are based on cryptography, which results in heavy computation cost. Last but not the least, our model does not require to install any additional exterior software on the cloud servers, which leaves us a wider choices in cloud servers. The performance comparison would show that our model performs better in computation and authentication cost.