The huge applications of data mining technologies have raised the concerns about securing information against unauthorized access, which serves as the important goal of database security and privacy. The important consideration in privacy preservation is to provide a proper balance between privacy protection and knowledge discovery. In order to handle these scenarios carefully, we propose a privacy preserving utility mining method in this paper based on the process, namely, sanitization, measure reduction in mining and post-reduction of sensitivity. The proposed approach is designed to handle privacy protection effectively using these three ways. Here, the utility pattern mining algorithm is devised utilizing the tree-based data structure and then, the privacy protection schemes are applied. The performance of the proposed approach is evaluated with the help of benchmark databases and three different evaluation metrics such as, hiding failure, miss cost and database difference ratio. The proposed approach is implemented using JAVA.