Various vulnerabilities in software products can often represent a significant security threat if they are discovered by malicious attackers. It is therefore important to identify these vulnerabilities and report their presence to responsible persons before they are exploited by malicious subjects. The number of security reports about discovered vulnerabilities in various software products has grown rapidly over the last decade. It is becoming more and more difficult to process all of the incoming reports manually. This work discusses various methods that can be used to automate several important processes in collecting and sorting the reports. The reports are analyzed in various ways, including techniques of text mining, and the results of the analysis are applied in form of practical implementation.