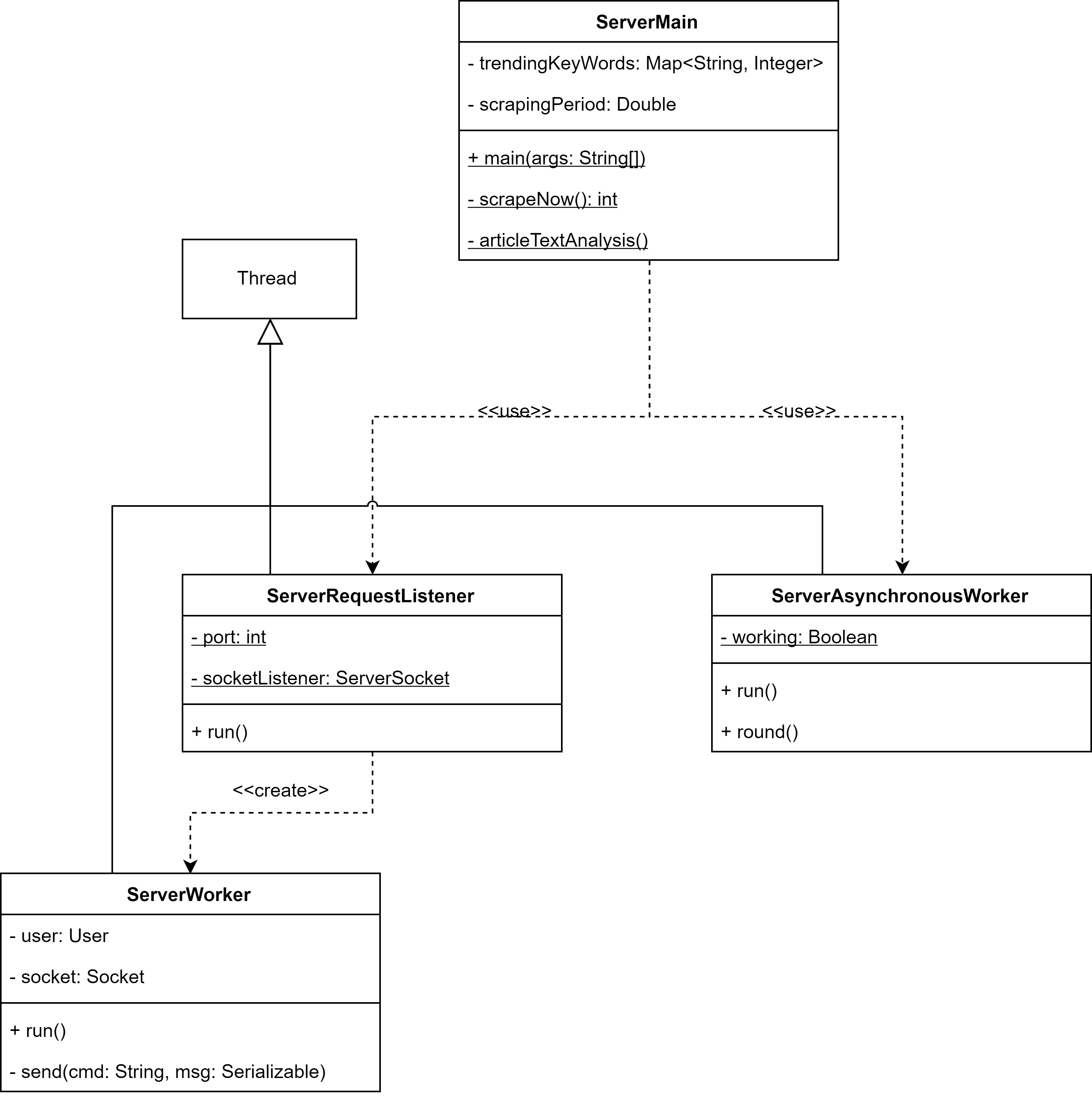
# Server’s architecture

## Scheme:



## ServerMain Class:

ServerMain is the main class of the server side of the application. It has the task to initialize the main structures of the server, to launch the worker threads, and to call the back-end methods for the articles’ text analysis and for forcing a scrape round (collecting articles from all sites backwards in time until the last scraped article).

When the server is launched, mongoDB indexes are created first thing. Then the listener thread ServerRequestListener and the scraping thread ServerAsynchronousWorker are created (more details in the following paragraphs).

It contains the scrapingPeriod variable, which determines the cool down period for the scraping process. It’s accessed in a thread-safe way, so that its modifications due to admin requests are concurrent with its readings.

trendingKeywords is a structure representing the top 10 trending keywords in the reference period and their frequency. It’s updated after each scraping round, and sent to each user that logs in to build the trending keyword chart.

When an admin wants to force a scraping round, the scrapeNow() method is called. It at first checks that no scraping threads are already running; if it is, this method returns with an error code. If no scraping threads are active, this method creates a ServerAsynchronousWorker object, and calls its round() method: this will start a round of scraping.

Moreover, each time a scraping round is completed, the articleTextAnalysis() method is called, which invokes the back-end methods for the retrieval of stored articles and the methods for text analysis collected in TextAnalyzer class.