**PriceAlert** – an exercise in developing a WebAPI project to set ‘low price’ alerts

1. Please create a small C# WebAPI service that implements this interface:

// Register an alert for the given security at the given price, for the given user

// i.e., the user would like to be alerted if the price for the give security falls below the given price

SetLowPriceAlert(string username, string ticker, decimal priceLimit)

// Return a list of alerts {username, ticker, priceLimit} that have been registered so far

GetAlerts()

// Return a list of alerts {username, ticker, priceLimit} that would triggered if the given security reaches the given price

CheckAlerts(string ticker, decimal price)

// Remove the given alert

RemoveAlert(string username, string ticker)

1. Please write a couple of paragraphs describing some ideas for improving the functionality of this service, such as adding a database.

To improve this system, we can implement a batch system that checks the current price for a ticker and notify the user through email, text, or websocket/long-polling if he/she/they set up an price alert previously.

This will be a read heavy operation, so we can have a master-slave database where a 2nd database will mainly for reads or caching the alerts. Caching the alerts will probably be a better idea and we will have to update the system to update the cache whenever a new alert comes in.

We can also limit the number of alerts for a user as it can spam the user. Maybe in a settings page with no more than 50 alerts.

We can also create a get alerts by username, as an user might want to see their own alerts.

We can also create a get alerts by username and ticker, as an user might want to see different price alerts for a ticker.