

## Scheduler (hosted on amazon ec2 server) - for free.

Scheduler will be running at all times (until the end of the semester), unless amazon's server goes down, or the scheduler program crashes unexpectedly.

### Interacting with the scheduler from an android app:

Please see the scheduler specs below to determine where the scheduler is located (its ip address), as well as the port number it uses to listen for incoming requests from the android app.

- [Scheduling a tune request from the android app \(tune operation\)](#)
  - "ok" returned immediately if scheduling the tune was successful.
  - "" returned (empty string) if the scheduler failed to schedule the tune. Hint: Empty string has a length of zero.

You will **NOT** know if the scheduler failed to communicate with the agent. The scheduler is (currently) implemented so that it responds with "ok" immediately if it schedules a tune. Unfortunately there is no way of notifying the android app if a packet failed to send to the Tuner agent (which initiates the tuning at the specified time and date). It is also impossible (currently) to detect if the FM Tuner agent tuned successfully - remember, the FM Tuner agent responds to the scheduler with "ok" if it does tune successfully. However the scheduler, in its current implementation, doesn't listen for these packets from the Tuner agent. The only time the scheduler is in a listening state (waiting for incoming packets from the agent) is during a scan operation, when it's waiting for a scanList (very first scan operation on scheduler startup, and hourly).

- [Asking the Scheduler for a scanList from the android app \(scan operation\)](#)
  - If the scheduler just started running, then it has not had a chance to perform an hourly scan yet. If this is the case (or if the scheduler previously failed to obtain a stationList), a scan request must occur immediately...so that it can be provided back to the android app. The scheduler will wait (block execution) for 2 minutes while it waits for a response from the FM Tuner Agent. If no response from the agent occurs, then the scheduler will respond to the android app with "" (empty string), indicating that it has failed to obtain a stationList.  
**NOTE:** this means the android app should NOT send other requests/packets to the scheduler for up to 2 minutes. With one exception, the scheduler responds back to the android app within 2 minutes on its own. Provide an indication to the user that a list of stations is loading!
  - If an hourly scan has already been performed, or if the previous bullet occurred recently, then the most recent scanList (saved within the scheduler itself) will be returned to the android app. This is almost instantaneous.

## **Interacting with the scheduler from the FM Tuner Agent:**

The FM Tuner agent simply waits for a packet to arrive from the scheduler, and determines whether it is a tune or scan request. Expect packets to come into agile 2 through port 9001 - as specified by Aram. This will be done in myRead().

The FM Tuner agent always performs the operation it is asked to do immediately, and without delay. It should respond back to the scheduler with a packet (scanList if a scan operation, "ok" if a tune operation). This is done in myWrite(). Please see the scheduler specs below to determine where the scheduler is located (its ip address), as well as the port number it uses to listen for incoming requests from the Agent.

### Scheduler specs

- public ip address: 54.186.109.70
- port number [packets sent from android]: 9001
- port number [packets sent from agile 2]: 9002