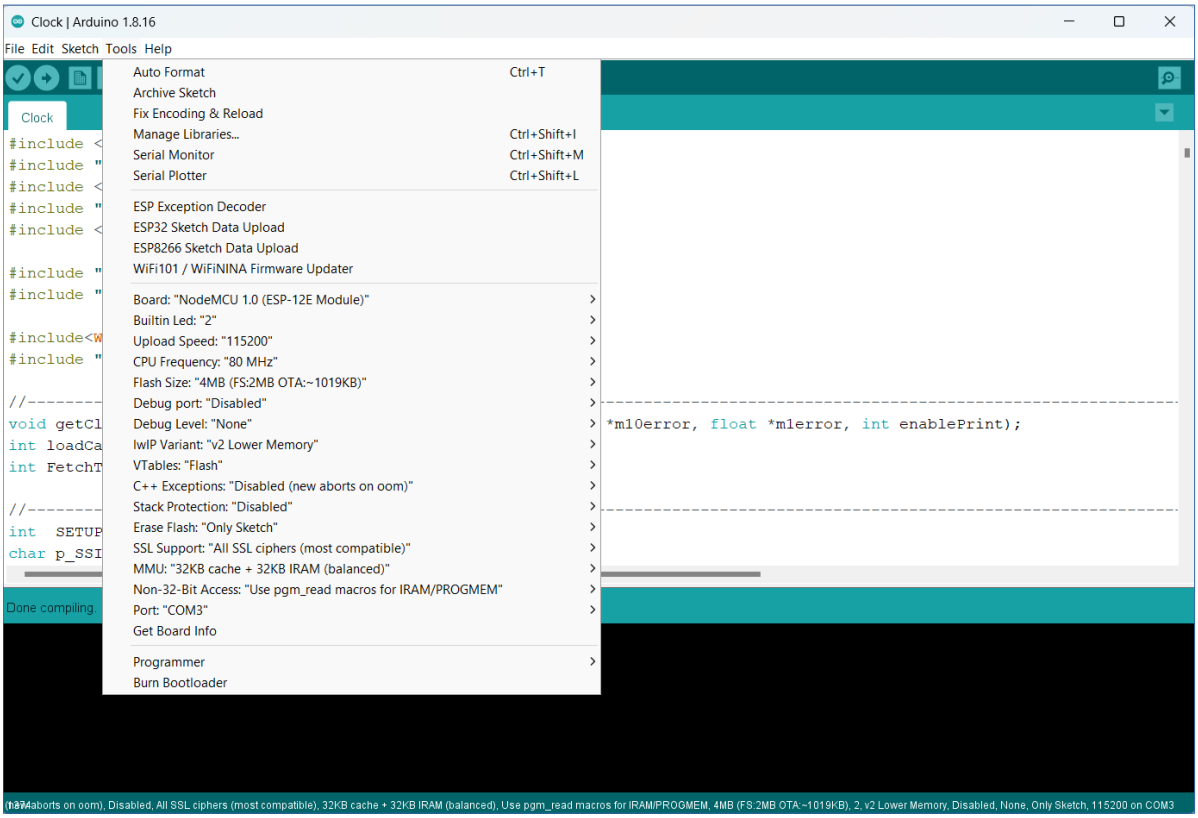
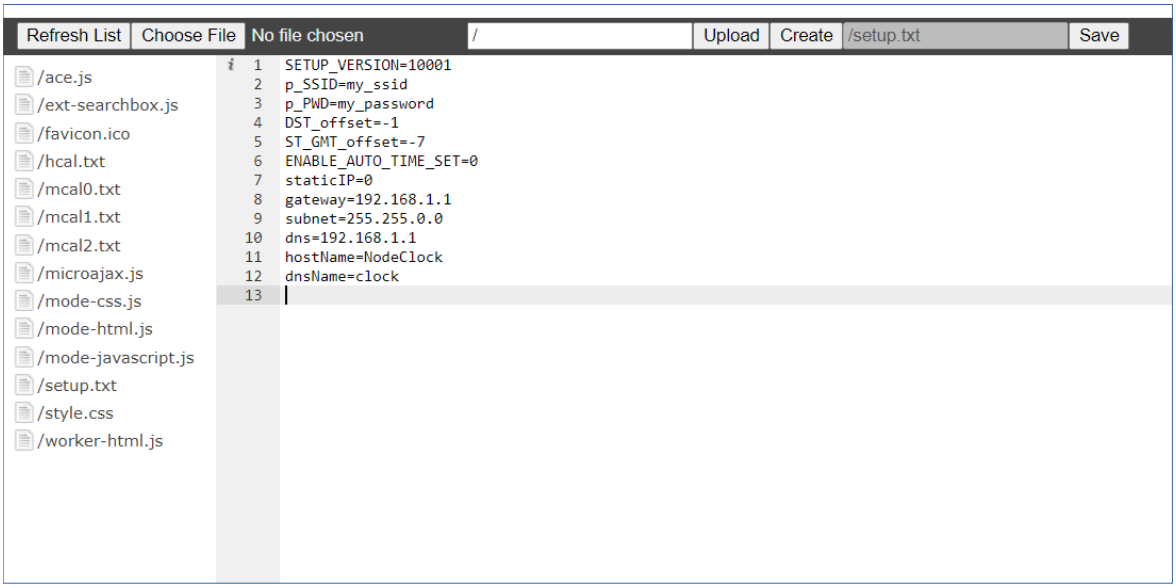
Clock Operation

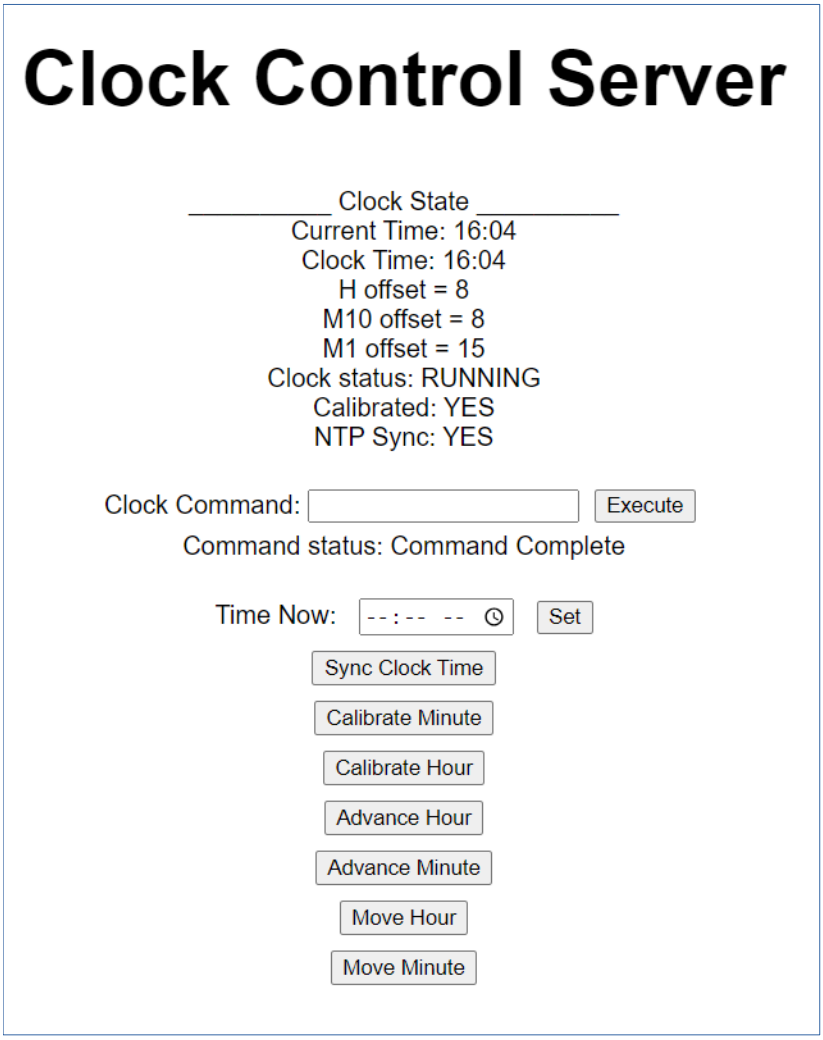


1. Board setup/configuration is shown above.
2. Compile/upload sketch to ESP8266
3. Execute ESP8266 Sketch Data Upload
4. Use a 5V 3A power supply for best reliability
5. Connect to WiFi SSID “NodeClock”
6. Load webpage: “clock.local/edit”, or get IP address from WiFi connection properties (“XXX.XXX.XXX.XXX/edit”)



7. A webpage as shown above will be displayed
8. Click on “setup.txt” to edit it.
9. Set your router SSID and Password (Note: leave no spaces before and after = or at the end of the lines)
10. Set your timezome offset in hours from GMT (Example: USA Pacific Time = -7)
11. Set the DST time offset from Standard time in hours
12. If your electronic includes the angle sensors, set “ENABLE_AUTO_TIME_SET=1”
13. You can set the network parameters, but it’s best to not use a static IP. If you want a static IP, set this up in your router instead.
14. Set hostName you want for WiFi AP access
15. Set an mDNS name for accessing your clock thru your WiFi network (dnsName.local)
16. Be sure to click “SAVE” after making changes.
17. Power cycle or reset to load changes

18. Load webpage: “clock.local”, or get IP address from WiFi connection properties (“XXX.XXX.XXX.XXX”)



19. A webpage as shown above will be displayed

20. If you don't have angle sensor electronics:
20.1. Use the "Move Hour" button to advance the hour in small steps until the clock is displaying any hour in the fully upright position.
20.2. Use the "Move Minute" button to advance the hour in small steps until the clock is displaying any minute in the fully upright position.
20.3. Click "Sync Clock Time" and when prompted enter the time displayed by the clock in "HH:MM" format
20.4. The clock will then proceed to advance the time on the clock to match the current time.
20.5. The clock will now continue to keep time and advance once each minute.
20.6. If you lose power, reset the electronics, or if a mechanical issue occurs, you will have to repeat these steps again.

21. If you have the angle sensors installed and connected:

21.1. Use the “Move Hour” button to advance the hour in small steps until the clock is displaying any hour in the fully upright position.

21.2. Use the “Move Minute” button to advance the hour in small steps until the clock is displaying any minute in the fully upright position.

21.3. Click “Calibrate Hour” and when prompted enter the hour displayed by the clock.

21.4. The clock will proceed to advance the hour cam thru a full revolution. When complete, the calibration data is automatically saved to the MCU file system.

21.5. Click “Calibrate Minute” and when prompted enter the minute displayed by the clock.

21.6. The clock will proceed to advance the minute 10’s digit cam thru a full revolution. This will take a significant amount of time.

21.7. When complete, the calibration data is automatically saved to the MCU file system. You will not have to repeat the calibration unless a mechanical change occurs.

21.8. Click “Sync Clock Time”

21.9. The clock will then proceed to advance the time on the clock to match the current time.

21.10. The clock will now continue to keep time and advance once each minute.

21.11. If you lose power, reset the electronics, or if a mechanical issue occurs, the clock will automatically adjust the displayed time to match the actual time.