

Informática Industrial

Sensor de temperatura - Servidor - Cliente

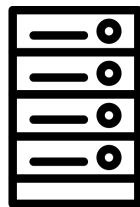
Alexandre Cabral Bedeschi

Schema



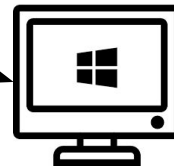
Sensor:

-Valor analógico: 0 - 1023



Calcula temperatura:

- 1°C/10mV
- 0 - 1023 => 0v - 5v
- °C => °F
- °C => K



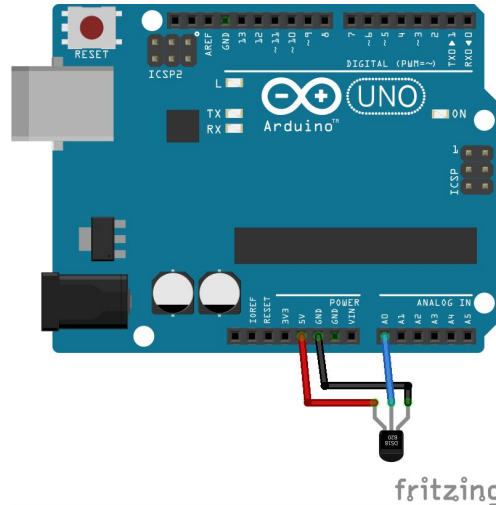
Selecciona unidade:

- °C
- °F
- K

Arduino

-Sensor: LM35

-Mensagem = [0x13, 97, 8, lowByte(dado), highByte(dado), lowByte(checkSum), highByte(checkSum), 0x13]



Servidor

-Comunicação serial

-Porta 9900

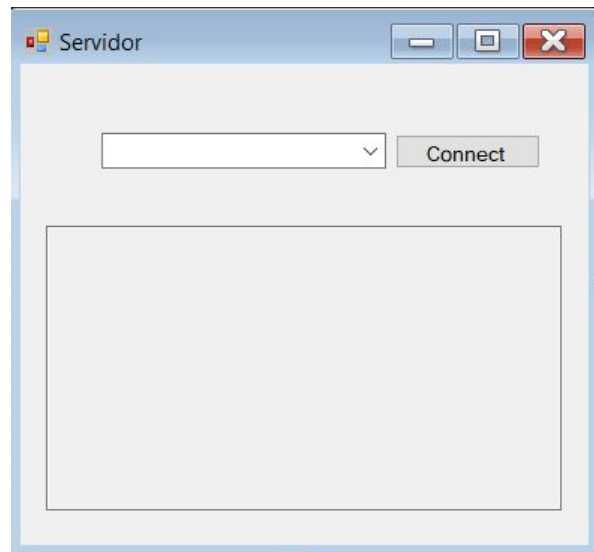
-Recebe valor do sensor (verifica protocolo): 0 -1023

- $^{\circ}\text{C} = (\text{valor_sensor} * 5.0 / 1023.0) / 0.01$

- $^{\circ}\text{F} = (9.0/5.0 * ^{\circ}\text{C}) + 32.0$

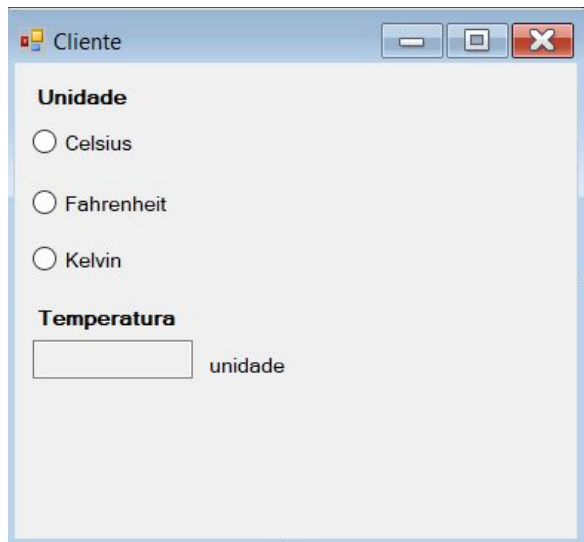
- $\text{K} = ^{\circ}\text{C} + 273.15$

-Envia temperatura calculada para o cliente



Cliente

- Envia para o servidor a unidade: °C, °F, K
- Mostra temperatura na unidade escolhida



The image shows a screenshot of a Windows application window titled "Cliente". The window has a standard Windows title bar with minimize, maximize, and close buttons. The main content area is light gray and contains two sections. The first section is titled "Unidade" in bold black text. Below it are three radio button options: "Celsius", "Fahrenheit", and "Kelvin". The second section is titled "Temperatura" in bold black text. Below it is a text input field with a placeholder label "unidade" to its right.