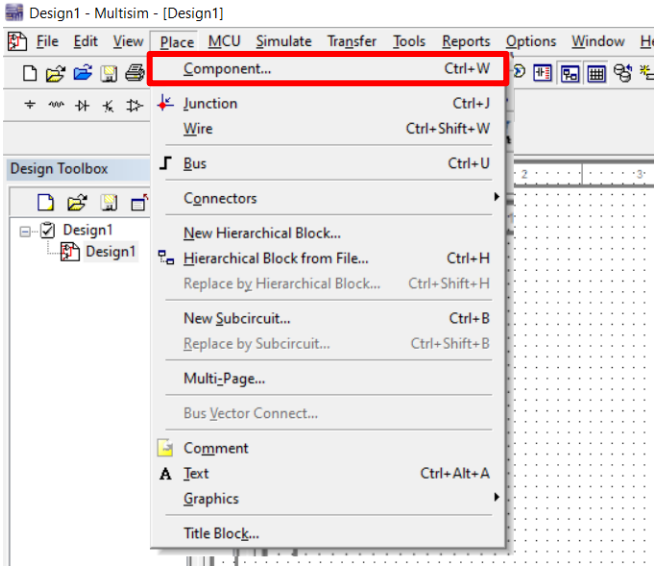
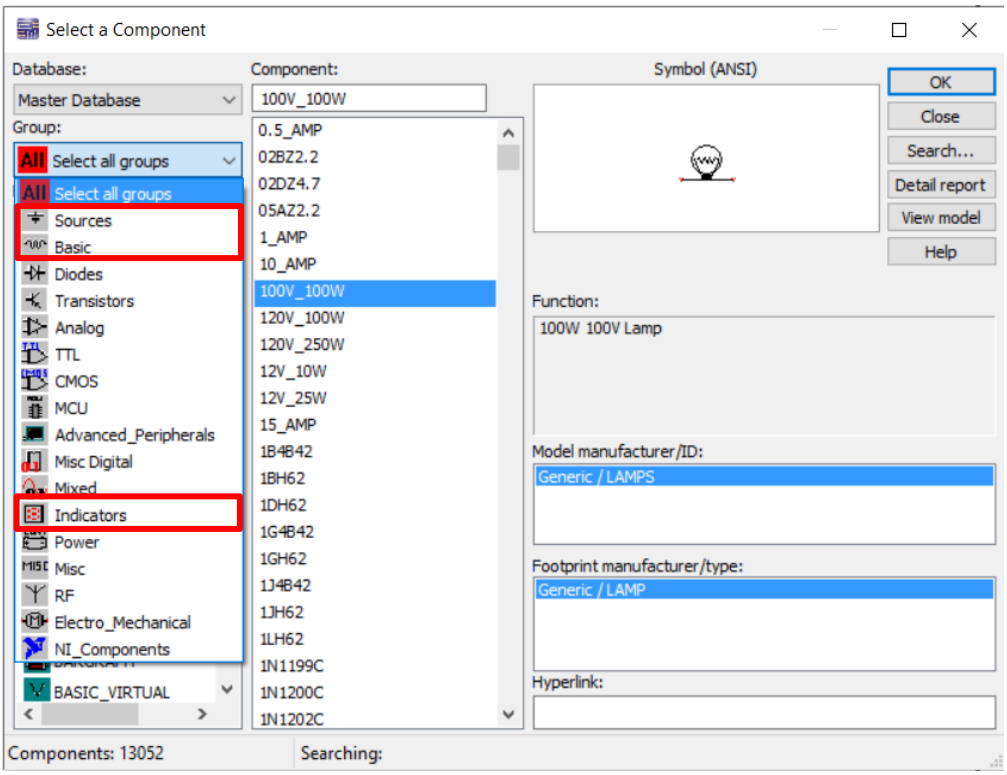
# Lab 1 Multisim Help

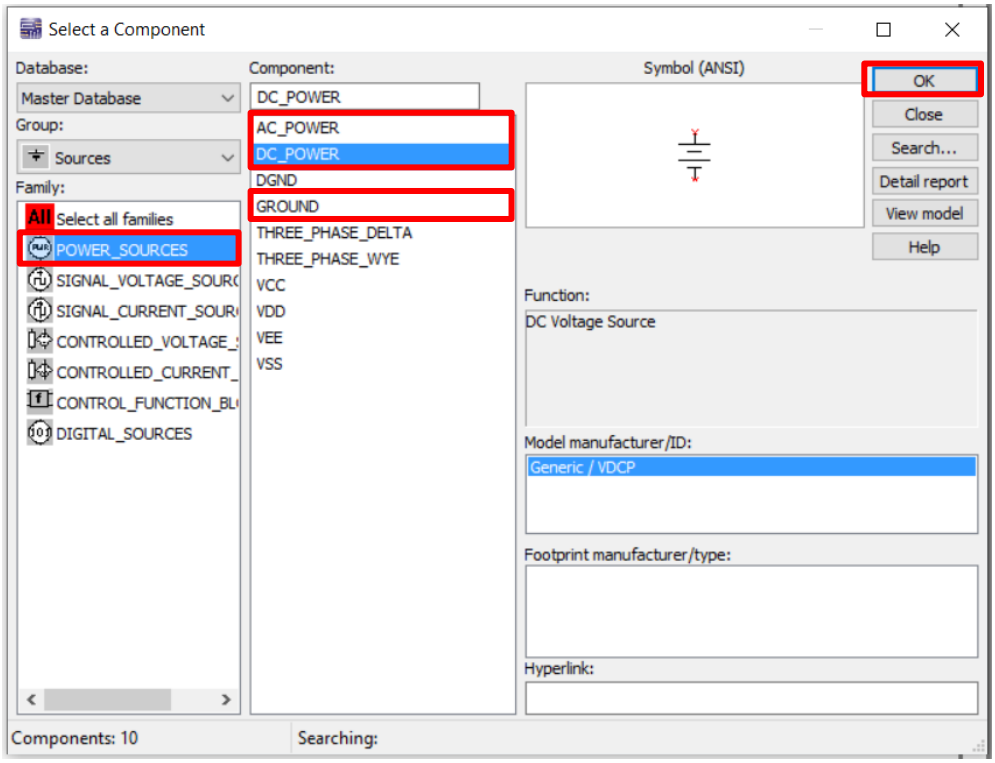
1. To add components such as, DC/AC sources, ground, resistors, and voltage and current meters:
   - Select **Place** -> **Component**



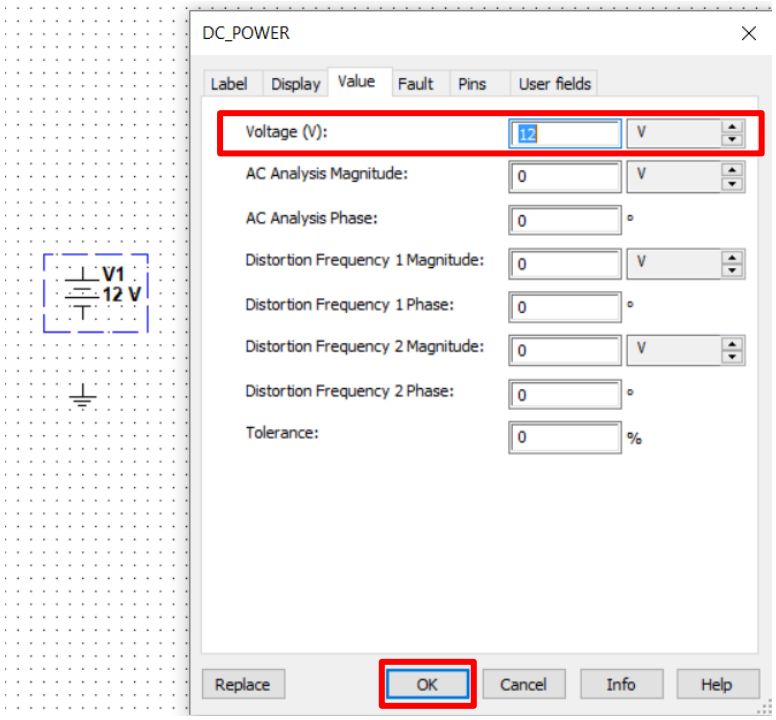

**Note**: Select **Sources** for AC/DC sources and ground. Select **Basic** for resistor. Select **Indicators** for voltmeter and ammeter.



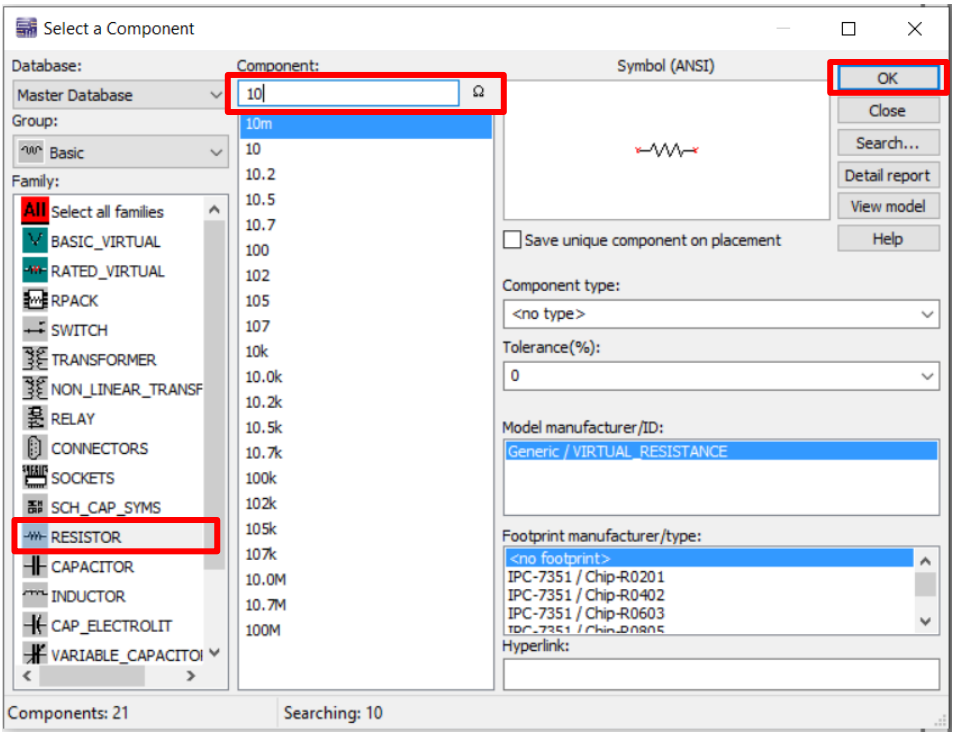
- Select **Sources** for DC/AC sources and ground -> **POWER_SOURCES** -> Select **DC_POWER, AC_POWER,** or **GROUND** -> click **OK**



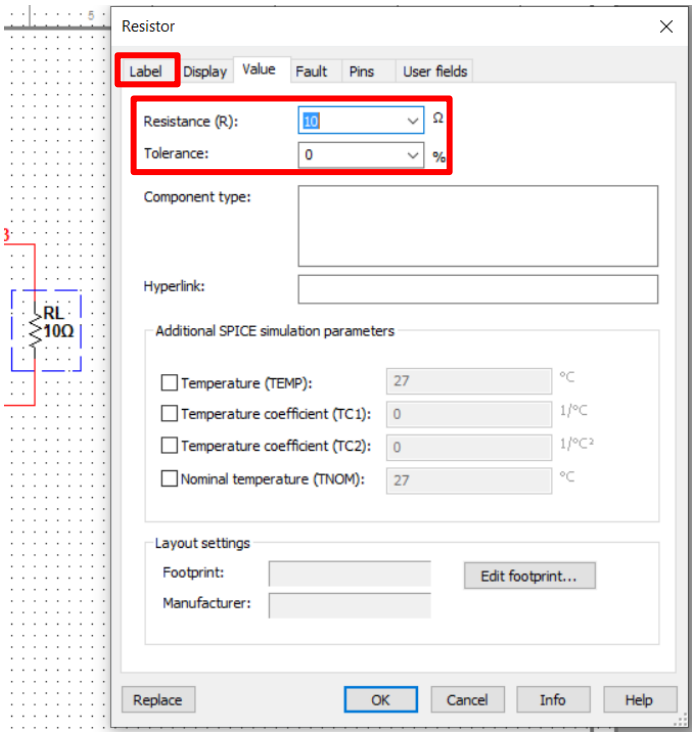

**Note**: To change voltage, double click at the voltage source, change voltage value, then click **OK**.



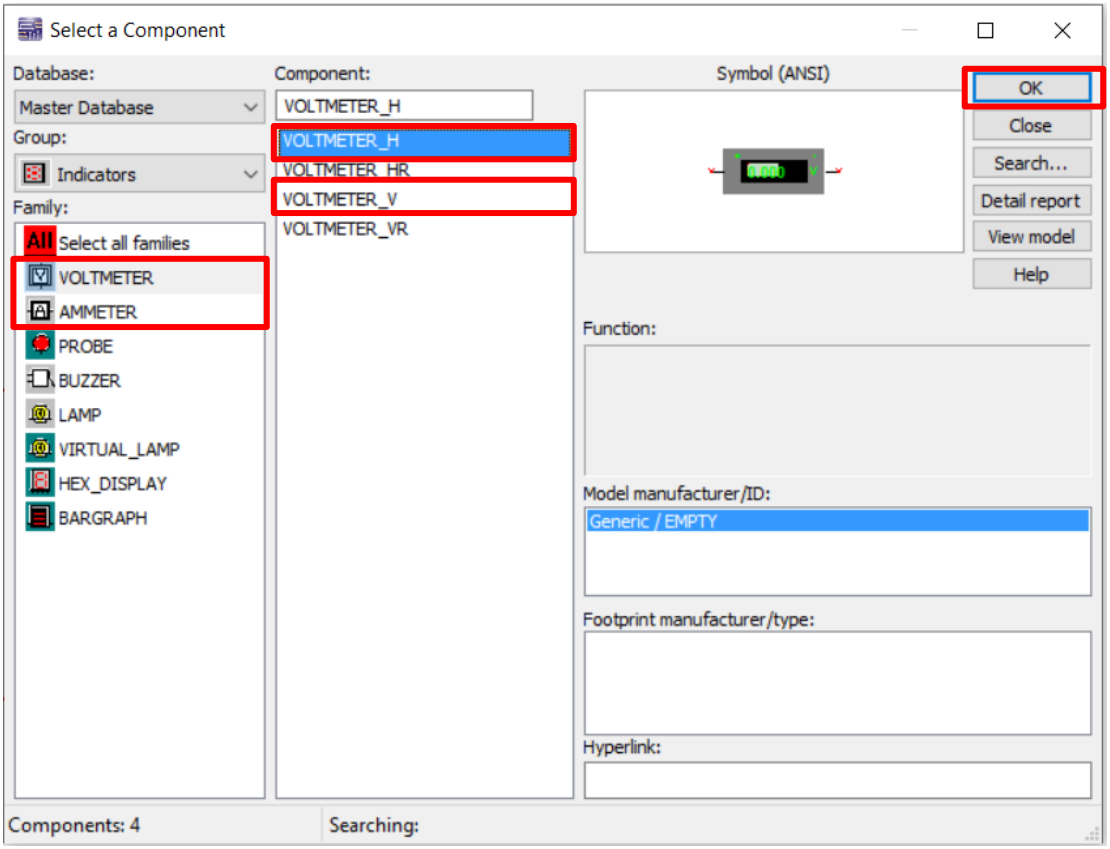
- Select **Basic** for resistor -> **RESISTOR** -> Change resistor value -> Click **OK**



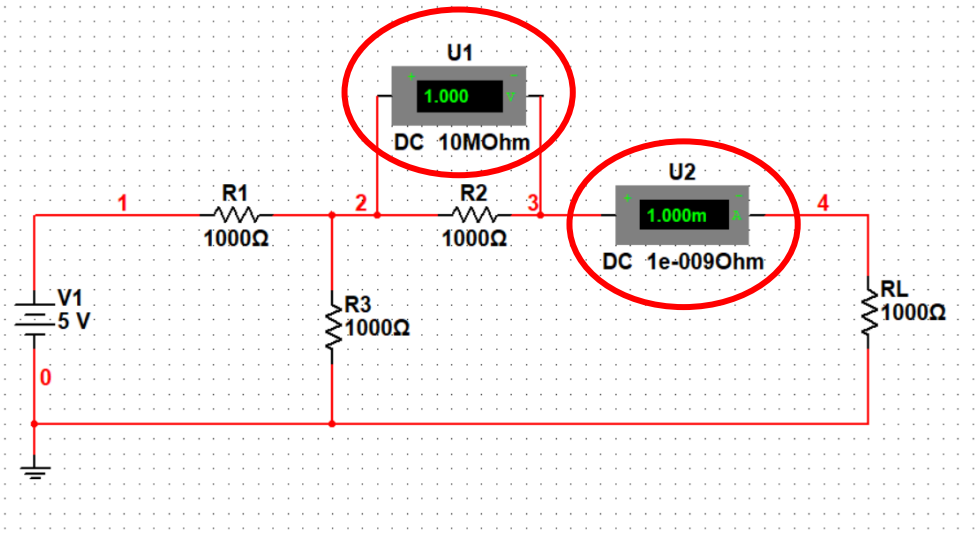

**Note**: To change resistor value, double click at the resistor, change the resistance value, then click **OK**. Select **Label** to change name of the resistor, then click **OK**.



- Select **Indicators** for voltmeter and ammeter -> Select **VOLTMETER** -> Select **VOLMETER_H** (Horizontal) or **VOLMETER_V** (Vertical) -> Click **OK**

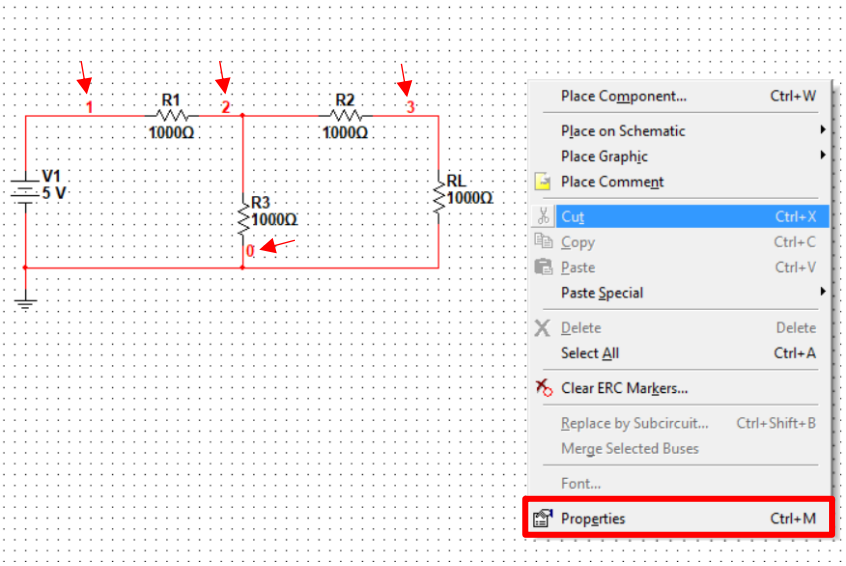



- Select **Indicators** -> Select **AMMETER** -> Select **AMMETER_H** (Horizontal) or **AMMETER_V** (Vertical) -> Click **OK**

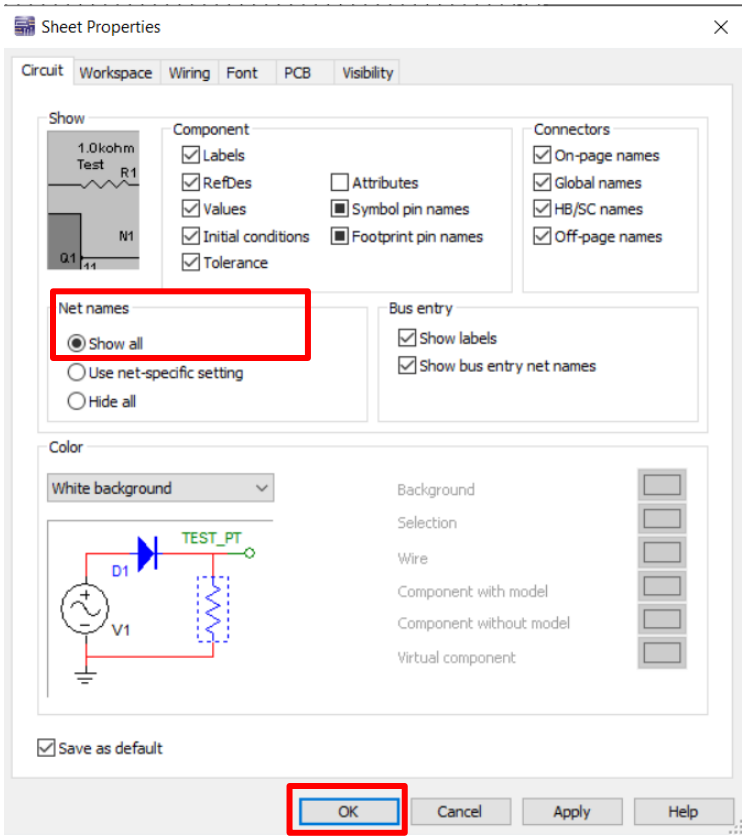



**Note**: You can observe voltage and current while you are running the simulation.

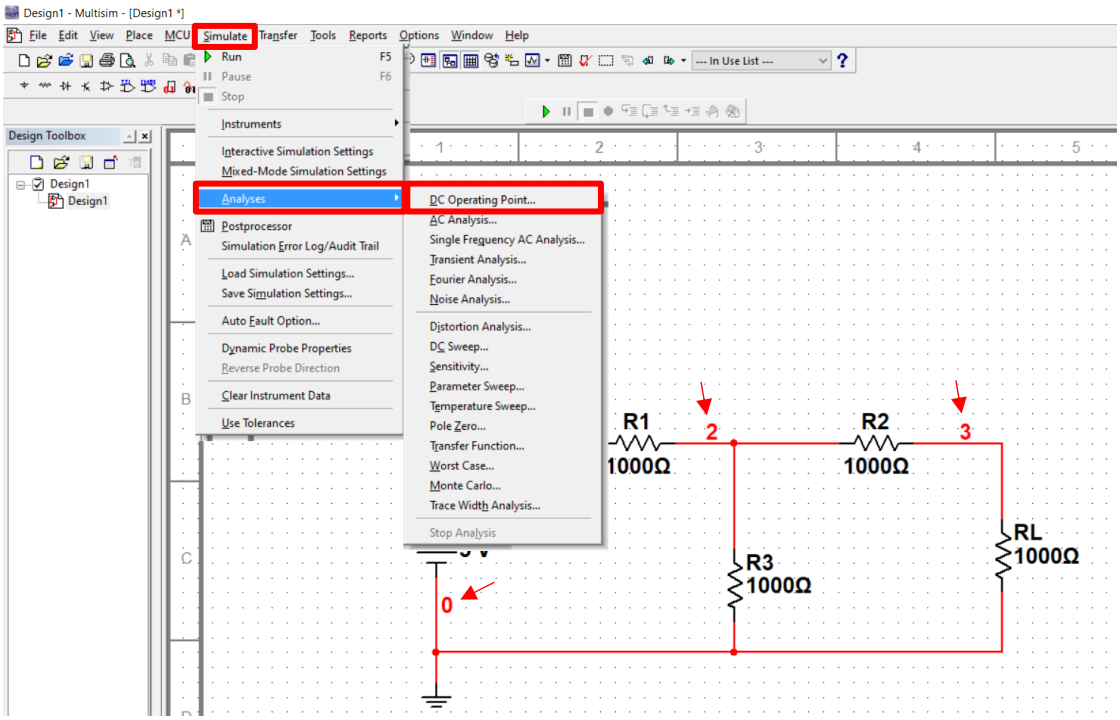
2. To find voltage at the node:
    - First, we want to show name of each node. Right click on background -> Select **Properties**



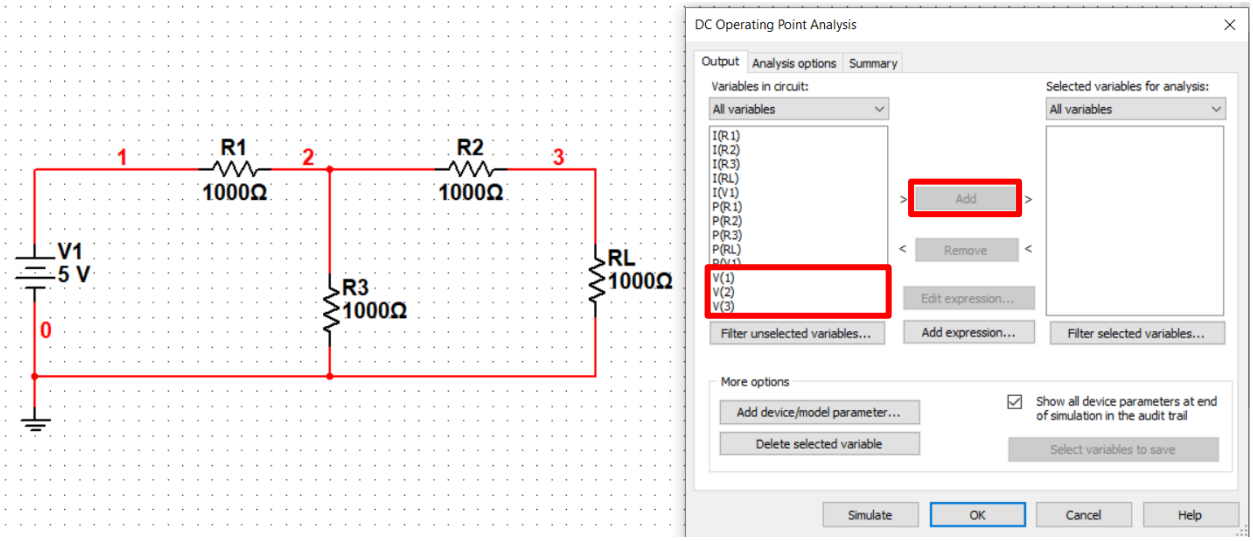

- At 'Net names', select **Show all**, then click **OK.**



- Once we know name in each node, go to **Simulate** -> **Analyses** -> **DC Operating Point**

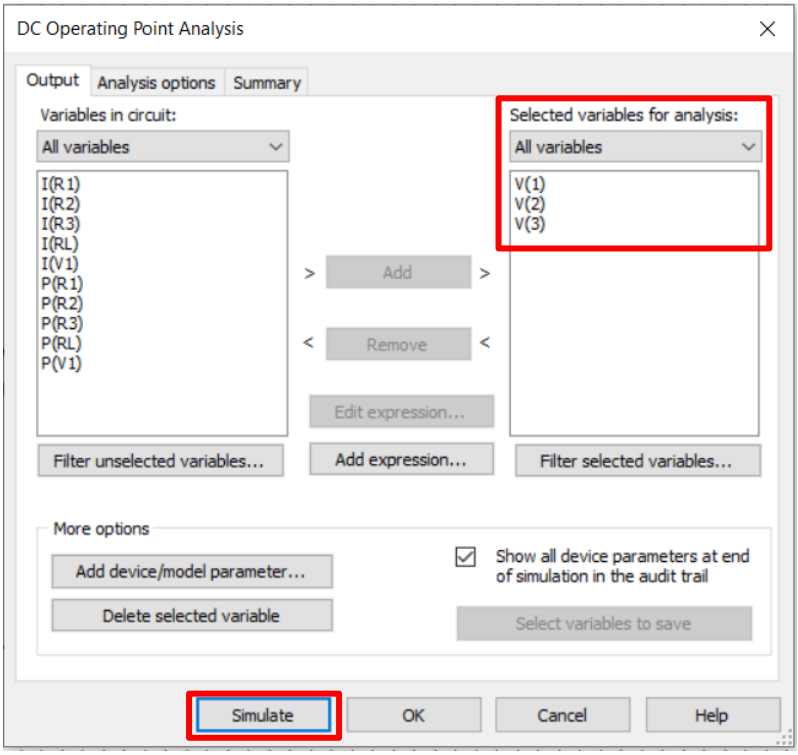



- Select voltage at the desired node (in this case, **V(1), V(2),** and **V(3)**) -> Click **Add**



- Once you are done selecting variables, click **Simulate.**

**Note**: All your selected variables should be on your right-hand side as shown below.




- Now, you will get the node voltage. **Note**: Voltage at node 1, 2, and 3 correspond to V(1), V(2), and V(3), respectively.