> # As you already figured out by Gauss's law, $\boldsymbol{E} = \frac{Q}{4 \cdot \pi \cdot \epsilon \cdot R^2}$

> # $V = \int_{R_o}^{R_i} \frac{Q}{4 \cdot \pi \cdot \epsilon \cdot R^2} \, dR = \frac{Q}{4 \cdot \pi \cdot \epsilon} \left(\frac{1}{R_i} - \frac{1}{R_o} \right)$

> # Therefore, for a spherical capacitor, $C = \frac{Q}{V} = \frac{4 \cdot \pi \cdot \epsilon}{\frac{1}{R_i} - \frac{1}{R_o}}$

> # If the outer sphere becomes infinitely large, $C = 4 \cdot \pi \cdot \epsilon \cdot R_i$