In the circuit shown below, find the small-signal gain from input to output.
For the circuit shown below, find the small-signal gain from input to output.
Find the small-signal gain from input to output.
Find the small-signal gain from input to output.

\[ V_{DD} = 5V \]
Find small-signal $R_{in}$ and Gain. Assume $C_1 = \infty$ and $r_o = \infty$. 
Find small-signal $R_{in}$ and small-signal Gain. Assume $r_o = \infty$. 

![Circuit Diagram]
Find small-signal Gain (Gain = Gm Rout). Assume $r_o=\infty$. 

![Circuit Diagram]

- $V_{dd}$
- $V_{in}$
- $Q1$
- $R$
- $V_{out}$
- $M2$
Find small-signal $R_{out}$. Assume $r_o = \infty$. 

![Circuit Diagram]
Find $R_{out}$. Assume $r_o = \infty$. 

\[ V_{dd} \quad Q_1 \quad R_{out} = ? \]

\[ \quad \quad Q_1 \quad R \quad = ? \]

\[ \quad \quad Q_1 \quad R \quad = ? \]