Find $\tan\left(\frac{\pi}{12}\right)$.

$$
\tan\left(\frac{\pi}{12}\right) = \tan\left(\frac{4\pi}{12} - \frac{3\pi}{12}\right) = \tan\left(\frac{\pi}{3} - \frac{\pi}{4}\right) = \frac{\tan\left(\frac{\pi}{3}\right) + \tan\left(\frac{\pi}{4}\right)}{1 - \tan\left(\frac{\pi}{3}\right)\tan\left(\frac{\pi}{4}\right)} = \frac{\sqrt{3} + 1}{1 - \sqrt{3}} = \frac{1 + \sqrt{3}}{1 - \sqrt{3}}
$$