$$
\begin{aligned}
&\mu(t) = e^{at} \\
\Rightarrow \\
&e^{at}y' - ae^{at}y = e^{at}g(t) \\
\equiv \\
&[e^{at}y]' = e^{at}g(t) \\
\equiv \\
&\int_{t_0}^{t} [e^{as}y]'ds = \int_{t_0}^{t} e^{as}g(s)ds \\
\equiv \\
&e^{at}y - e^{at_0}y_0 = \int_{t_0}^{t} e^{as}g(s)ds \\
\equiv \\
&y = e^{-at}\int_{t_0}^{t} e^{as}g(s)ds + C
\end{aligned}
$$