Let $x = -3 + \sqrt[3]{3}$

$(x+3) = \sqrt[3]{3}$ · cube both side

$(x+3)^3 = 3^{\frac{1}{3} \times 3}$

$x^3 + 27 + 9x(x+3) = 3$

$x^3 + 9x^2 + 27x + 24 = 0$

This polynomial is irreducible over Q by the rational root theorem. So it is minimal polynomial.

$m(x) = x^3 + 9x^2 + 27x + 24$ Ans

Degree = 3 over Q