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In [12]:
# 연습문제 3 p242, node (7)
from scipy.stats import *

n = 100
sample_mean = 1.022
sigma = 0.021

sem = sigma / (n ** 0.5)
ci = norm.interval(0.95, loc=sample_mean, scale=sem)

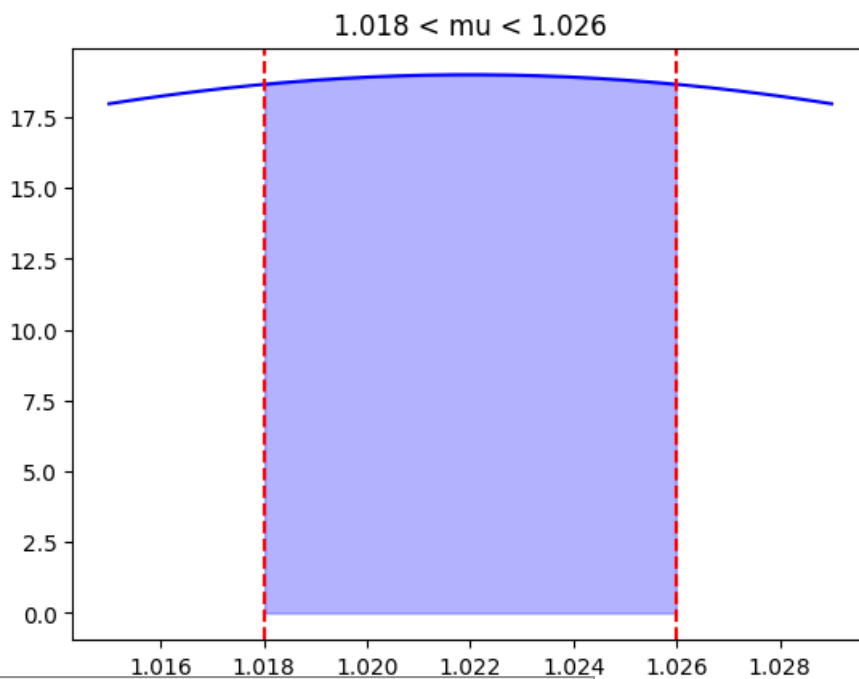
print(f'95% 신뢰구간 : ({round((ci[0]), 3)} < mu < {round((ci[1]), 3)}) [단위 : mm]')
95% 신뢰구간 : (1.018 < mu < 1.026) [단위 : mm]
In [15]:
# 연습문제 3 p242, node (7) + 시각화
import matplotlib.pyplot as plt
import numpy as np

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x = np.linspace(1.015, 1.029, 1000)
mu = 1.022
sigma = 0.021
pdf = (1 / (sigma * np.sqrt(2 * np.pi))) * np.exp(-0.5 * ((x - mu) / sigma) ** 2)
plt.plot(x, pdf, color='blue')
plt.fill_between(x, pdf, where=(x > 1.018) & (x < 1.026), color='blue', alpha=0.3)
plt.axvline(1.018, color='red', linestyle='--')
plt.axvline(1.026, color='red', linestyle='--')
plt.title('1.018 < mu < 1.026')
plt.show()

```



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