

The transition functions $g_{\alpha\beta} : U_\alpha \cap U_\beta \rightarrow G$ satisfy the cocycle condition:

$$g_{\alpha\beta} \cdot g_{\beta\gamma} = g_{\alpha\gamma}.$$

Given a cocycle $\{g_{\alpha\beta}\}$ with values in G we can construct a fiber bundle E having $\{g_{\alpha\beta}\}$ as its transition functions by setting

$$E = (\coprod U_\alpha \times F) / (x, y) \sim (x, g_{\alpha\beta}(x)y)$$

for (x, y) in $U_\beta \times F$ and $(x, g_{\alpha\beta}(x)y)$ in $U_\alpha \times F$

My question is: Why the fiber bundle E having $\{g_{\alpha\beta}\}$ as its transition functions?

Thank you!