$$ds^2 = dx^2 + dy^2 + dz^2$$

Cylindrical: $x = r\cos\theta$, $y = r\sin\theta$, $z = z$

$$dx = dr\cos\theta - r\sin\theta\, d\theta \qquad dy = dr\sin\theta + r\cos\theta\, d\theta$$

$$ds^2 = dr^2 + r^2 d\theta^2 + dz^2$$

Spherical: $x = r\cos\phi\sin\theta$ $y = r\sin\phi\sin\theta$ $z = r\cos\theta$

$$dx = dr\cos\phi\sin\theta - r\sin\phi\sin\theta\, d\phi + r\cos\phi\cos\theta\, d\theta$$

$$dy = dr\sin\phi\sin\theta + r\cos\phi\sin\theta\, d\phi + r\sin\phi\cos\theta\, d\theta$$

$$dz = dr\cos\theta - r\sin\theta\, d\theta$$

$$ds^2 = dr^2\sin^2\theta + r^2\sin^2\theta\, d\phi^2 + r^2\cos^2\theta\, d\theta^2$$
$$+ dr^2\cos^2\theta + r^2\sin^2\theta\, d\theta^2$$
$$+ 2r\cos\theta\sin\theta\, dr\, d\theta - 2r\cos\theta\sin\theta\, dr\, d\theta$$

$$ds^2 = dr^2 + r^2 d\theta^2 + r^2\sin^2\theta\, d\phi^2$$

On the surface of a cylinder, r = constant $\Rightarrow dr = 0$

On the surface of a sphere, r = constant $\Rightarrow dr = 0$