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Maria Fox* (maria.fox@bc.edu). *The GL_4 Rapoport-Zink Space*. Preliminary report.

The GL_{2n} Rapoport-Zink space is a moduli space of supersingular p -divisible groups of dimension n and height $2n$, with a quasi-isogeny to a fixed base point. After the GL_2 Rapoport-Zink space, which is zero-dimensional, the GL_4 Rapoport-Zink space has the most fundamental moduli description, yet relatively little of its specific geometry has been explored. We give a full description of the geometry of the GL_4 Rapoport-Zink space, including the connected components, irreducible components, and intersection behavior of the irreducible components. As an application of the main result, we also give a description of the supersingular locus of the Shimura variety for the group $GU(2, 2)$ over a prime split in the corresponding imaginary quadratic field. (Received August 28, 2018)