Résumé:

The bicyclic semigroup is generated by two elements, q and p, subject to the relation $qp = 1$. For a model of this semigroup you may think of the C^* algebra generated by the right shift and its adjoint on Hilbert space.

One can also consider the 1-normed algebra generated by this semigroup. We will see how the semigroup's structure can be used to calculate the cohomology of this algebra.