The Lewis structure of H2 consists of two hydrogen atoms, each with a single dot representing its valence electron. The dots are placed between the two hydrogen atoms to indicate the sharing of electrons.

Example: Formation of Water Molecule (H2O):

Let's consider the formation of a water molecule (H2O) from two hydrogen atoms and one oxygen atom. The oxygen atom has six valence electrons, and each hydrogen atom has one valence electron. The oxygen atom shares two of its valence electrons with the two hydrogen atoms, forming two covalent bonds.

The Lewis structure of H2O consists of an oxygen atom with two dots representing its unshared electrons and two pairs of dots representing the shared electrons. The hydrogen atoms are each represented by a single dot, indicating their shared electrons.

Types of Covalent Bonds:

There are three types of covalent bonds:

Single Covalent Bond: A single covalent bond is formed by the sharing of one pair of electrons between two atoms. It is represented by a single line in a Lewis structure.
Double Covalent Bond: A double covalent bond is formed by the sharing of two pairs of electrons between two atoms. It is represented by a double line in a Lewis structure.
Triple Covalent Bond: A triple covalent bond is formed by the sharing of three pairs of electrons between two atoms. It is represented by a triple line in a Lewis structure.