In this thesis we deal with generalisation of the structure of convergence in metric spaces and characterisation of some properties using sequences. On basic of behaviour of convergent sequences in metric spaces which we alongside with selected properties in metric spaces remind we introduce the general structures. The first of them - sequential spaces - includes the information about the limit of a sequence which we consider to be unique. The second - uniformly sequential spaces - generalises the relation of adjacency of two sequences. We show that continuity of a mapping, topology, compactness, connectedness and separability can be induced from a sequential structure. In addition, we show total boundedness and completeness can be characterised using the term of a Cauchy sequence which we can define in a uniformly sequential structure. Boundedness is shown to be independent on both of those structures.