This thesis is focused on the alignment studies of the vertex detector during first years of the Belle II detector operation and the first prompt $\sin 2\phi_1$ analysis using the first relevant data collected by the detector. Firstly, the Belle II detector and the SuperKEKB accelerator is introduced. Secondly, the software framework and tools operation is explained, then the alignment procedure and developed validation procedures are described in detail. Fourth section reports about the first years of the detector operation. Next three sections are related to different alignment studies during thee different periods of the vertex detector operation: the Phase 2, VXD Commissioning and beginning of the Phase 3 early. The last section covers the time-dependent CP Violation and mixing measurements performed using the data collected prior to the 11^{en} of May 2020.