

## **Abstract**

In 2019, the world was shocked by the Covid-19 pandemic, which forced many schools, universities, and other educational institutions to shift from face-to-face learning. Many educational institutions have begun implementing online learning through various applications, one of which is the Learning Management System (LMS). This application has greatly assisted educational institutions in managing online learning more efficiently. However, many other educational institutions still face challenges in implementing LMS properly due to its limited features when dealing with a large number of users. For instance, when a teacher handles multiple subjects and several parallel classes, it becomes difficult for them to distribute materials since they are unable to upload content to all parallel classes at once. Another example is when an educational institution has thousands of students, making it impractical to input and enroll each student into their respective classes one by one.

To address these issues, the author has developed an application called the Course Development System (CDS), which integrates with LMS to help teachers manage materials or courses and offers features that directly integrate with the school's academic system. This integration simplifies the process of adding student data into the LMS automatically. In this research, the author will implement the CDS with the LMS Moodle as a case study at SMAN 7 Kediri, where the e-learning system at this school is still very limited. Teachers must manually create accounts and enroll students, a task that should already be integrated with the school's academic system. This research also aims to help SMAN 7 Kediri manage administration and institutional data using the CDS & LMS applications.

**Keywords:** LMS, CDS, Moodle, API, Automation, E-learning