

# C-DAC's Toolkit for LOINC (CLNtk)

---

Electronic Health Records (EHR) Standards for India were put forwarded by the Ministry of Health & Family Welfare (MoH&FW), Government of India in December 2016. The standards aim to bring uniformity in the creation and maintenance of healthcare information and address various aspects viz. structure, exchange, content, security, and privacy.

Logical Observation Identifiers Names and Codes (LOINC) is one of the coding standards recommend for recording tests, measurements, observations used for processing results and reports in the Laboratory and Imaging Information Systems. To promote usage and adaption of LOINC in the country, under the support of MoH&FW, Centre for Development of Advanced Computing (C-DAC), Pune has developed C-DAC's Toolkit for LOINC (CLNtk) to enable ease of integration of LOINC in the healthcare application.

## C-DAC's Toolkit for LOINC (CLNtk)

CLNtk is a specially designed FOSS application for easy access and integration of the LOINC standard in healthcare applications. The toolkit provides simple to use REST APIs for LOINC standard integration. It enables clinicians and researchers to find relevant LOINC codes through its components including, the long common name, short name, display name, and other related information. The salient features of the C-DAC's toolkit for LOINC include:

### Salient Features

- Free & Opensource Software (FOSS) under Apache License v2.0
- Easy to use RESTFUL API for hassle-free integration of LOINC
- Provides Elasticsearch index creation from the LOINC standard CSV files
- RESTFUL API for search, expand panel, lookup. Also, supported APIs to fetch information from LOINC standard
- Supports Elastic Search based full-text search
- Enables searching with advance search
- Toolkit based on platform-independent technologies
- Quick development or augmentation of existing application using components
- API Documentation available

## What's in C-DAC's Toolkit for LOINC v1.0?

**Release Date: May 28, 2021**

The C-DAC's toolkit for the LOINC zip package contains the following:

### **loincserv.war**

- A war that can be readily deployed along with the application or centrally by the vendor for one or more products/deployments
- Provides Ready to call Representational State Transfer (REST) APIs LOINC search and lookup LOINC codes and other information.

## Demo Page

The sample Laboratory Demo page showing the use of REST APIs provided by CLNtk. The demo page provides one of the ways to search and record various laboratory tests with LOINC standards code.

The package also contains license.txt and NOTICE.txt.

## Targeted User Community

The developed C-DAC's toolkit for LOINC (CLNtk) will be a great help to enable the exchange and aggregation of clinical results for care delivery, outcome management, and research by providing a set of universal codes and structured names to unambiguously identify things you can measure or observe, building applications used in medical domains.

The healthcare domains can be Laboratory Information System (LIS), Electronic Health Record (EHR) Systems, Hospital Information Systems (HIS), Clinical Information System, Software Vendors that make applications/systems/devices that require supporting medical informatics and IT standards. Health Informatics Professional studying or doing research in the area of medical data capture, storage, transmission, visualization, etc. will also need the LOINC to interact with medical systems.

## Availability

The C-DAC's toolkit for LOINC (CLNtk) is available from the C-DAC website [www.cdac.in](http://www.cdac.in) under Apache License v2.0 as free and open-source software.

LOINC Table Files are free for access by registration. Users are advised to register and obtain a suitable license to use LOINC codes in their software and work from <https://www.loinc.org>

For any information regarding C-DAC's toolkit for LOINC please write to C-DAC at [sdk-eng@cdac.in](mailto:sdk-eng@cdac.in).