

Pandit Deendayal Energy University

School of Technology

Information Security Lab

B.Tech-Computer Science & Engineering (Sem-V)

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19BCP138

DIVISION – 2

Lab 1 Assignment: Download and Practice CrypTool

❖ **Aim:** To Download and Practice CrypTool.

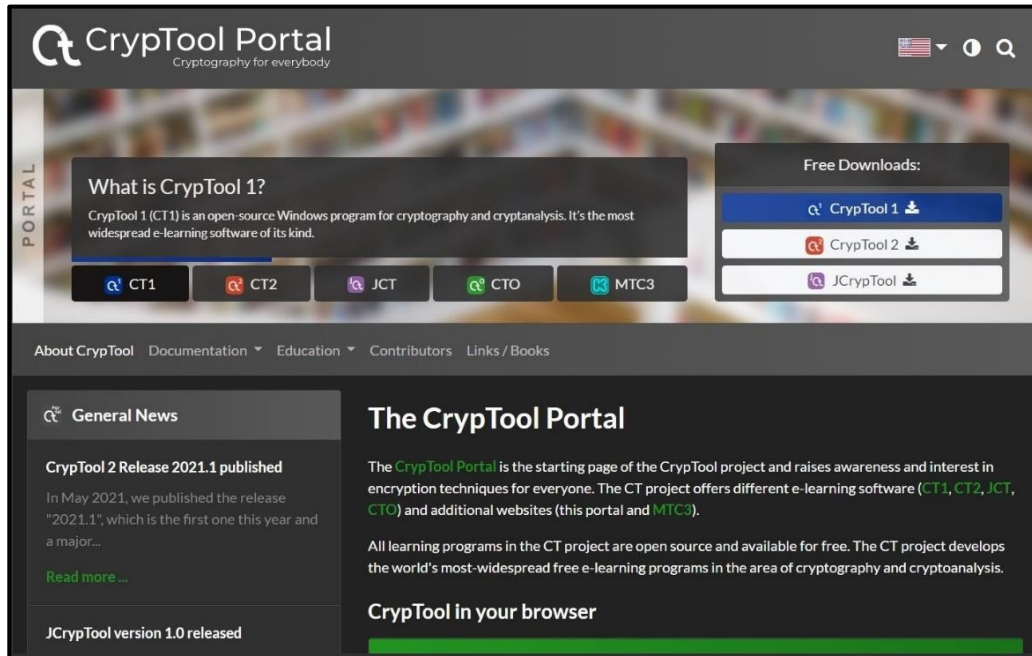
❖ **Introduction:**

CrypTool is an open-source project that focuses on free e-learning software. CrypTool is worldwide the most widespread e-learning software in the field of cryptology. The goal of the CrypTool project is to make users aware of how cryptography can help against network security threats and to explain the underlying concepts of cryptology. CrypTool implements more than 400 algorithms. They contain most classical ciphers, as well as modern symmetric and asymmetric cryptography including RSA, ECC, digital signatures, hybrid encryption, homomorphic encryption, and Diffie–Hellman key exchange. Till now, 4 versions of CrypTool are developed:

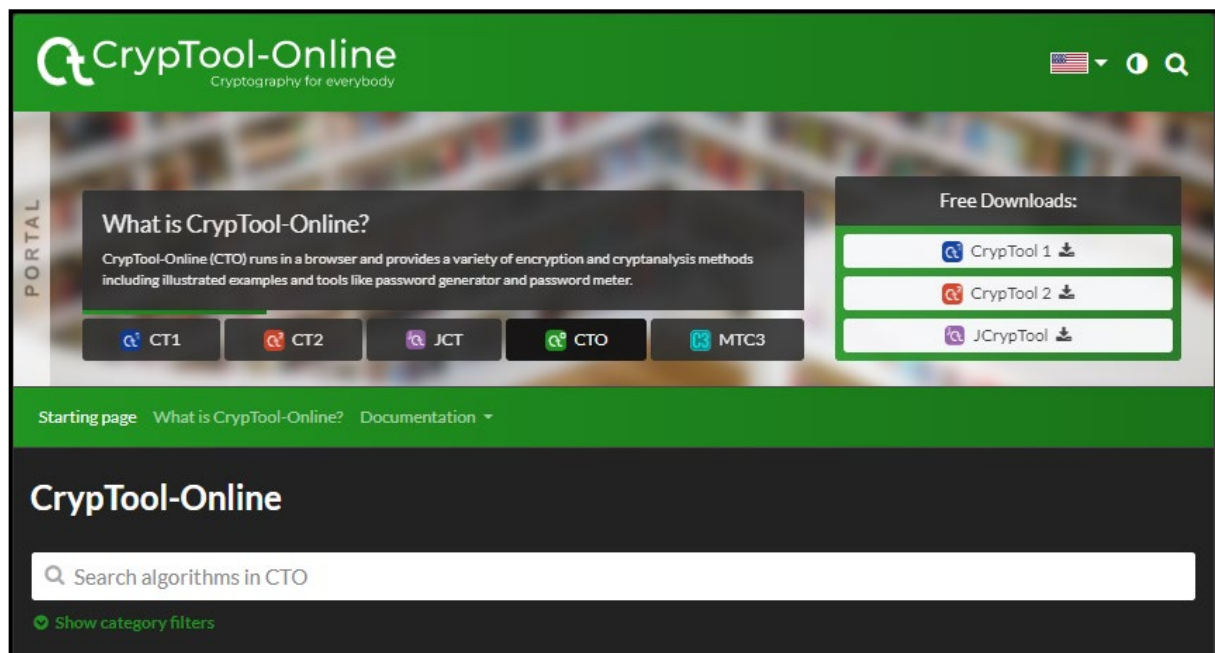
- 1) CrypTool 1 (CT1)** → Built with C++ and designed for the Microsoft Windows operating system.
- 2) CrypTool 2 (CT2)** → Built with C#/.NET/WPF, uses the concept of visual programming to clarify cryptographic processes. It has more than 150 crypto functions.
- 3) JCrypTool (JCT)** → Built with Java/Eclipse/RCP/SWT. JCT contains more than 100 crypto functions.
- 4) CrypTool Online (CTO)** → CrypTool Online allows users to try cryptographic methods directly within a browser on a PC or on a smartphone (using JavaScript), without the need to download and install software.

❖ Steps to Download CrypTool:

- Search CrypTool in the browser or Copy/Paste the link in the browser given below:
<https://www.cryptool.org/en/>
- After opening the link, it will be redirected to the homepage of CrypTool.



- You can also work online on CrypTool Online (CTO) by clicking on the CTO bar available on the homepage of CrypTool.
- **CrypTool Online:**







- Suppose you want to practice Caesar, click Caesar in CTO in highlights.

The screenshot shows the 'Caesar' page on the CryptTool-Online website. The page has a green header with the logo and navigation icons. Below the header, there are two tabs: 'Cipher' and 'Description'. The 'Cipher' tab is active. The interface includes an 'Input' text area with the placeholder text 'Hello this is a test. Please enter your text here.' and a 'length: 50' indicator. Below the input area, there are two radio buttons: 'Encipher' (selected) and 'Decipher'. There are also two checkboxes: 'Blocks of five' (unchecked) and 'Keep non-alphabet characters' (checked). A 'Key' section shows a value of '1' with minus and plus buttons, and a 'Show / modify code' button. The 'Output' section displays the result: 'Ifmmp uijt jt b uftu. Qmfbtf foufs zpvf ufyu ifsf.'

- You can change Input and Keys as you want and output will be generated automatically. Also, you can select between Encipher and Decipher.
- Now to Download CT-1 or CT-2, select CT-1 or CT-2 bar in the homepage of CryptTool, then select Download.

The screenshot shows the homepage of CryptTool 1. The header is blue with the logo and navigation icons. Below the header, there is a 'PORTAL' section with a 'What is CryptTool 1?' card. The card contains the text: 'CryptTool 1 (CT1) is an open-source Windows program for cryptography and cryptanalysis. It's the most widespread e-learning software of its kind.' Below the card, there are five buttons: 'CT1', 'CT2', 'JCT', 'CTO', and 'MTC3'. To the right of the 'PORTAL' section, there is a 'Free Downloads:' section with three buttons: 'CryptTool 1', 'CryptTool 2', and 'JCryTool'. Below the 'PORTAL' section, there is a navigation bar with links: 'About CryptTool 1', 'Documentation', 'Downloads', and 'Screenshots'. Below the navigation bar, there is a 'CryptTool 1 News' section with two news items: 'New Version of CryptTool — CT 1.4.41 released' and 'New Release of CryptTool — CT 1.4.40 released'. To the right of the news section, there is an 'About CryptTool 1' section with the text: 'CryptTool 1 (CT1) is a free Windows program for cryptography and cryptanalysis. CT1 is available in 6 languages, and it is the most widespread e-learning software of its kind. CT1 supports both contemporary teaching methods at schools and universities as well as awareness training for employees and civil servants. The program can be downloaded [here](#). Originally designed as an internal business application for information security training, CryptTool 1 has since developed into an important open-source project in the field of cryptology and IT security awareness.'


CrypTool 2
Cryptography for everybody

[About CrypTool 2](#)
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[Downloads](#)
[YouTube Videos](#)
[Team](#)
[Volunteers](#)
[Report a Bug](#)

CrypTool 2 News

CrypTool 2 Release 2021.1 published

In May 2021, we published the release "2021.1", which is the first one this year and a major...

[Read more ...](#)

CrypTool 2 Release 2020.1 published

In April 2020, we published the first release of CrypTool 2 (CT2) this year, named "2020.1". This is...

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Subscriber record: 1000 at CT2 Facebook page and 100 at the CT2 YouTube channel

The CrypTool 2 (CT2) project is active on several social media platforms.

[Read more ...](#)

Download


Here you can download the current versions of CrypTool 2. There are two versions of CrypTool 2, the stable version and the nightly version. Both versions are available as an EXE installer and as a ZIP archive. The EXE installer supports the creation of a start menu entry, of a desktop link and of an Explorer file type. If you don't know which one to choose, you should prefer the stable version with EXE installer. No admin rights are needed for the installation. Each installation type (EXE and ZIP) has its own online update mechanism.


For execution, a 64-bit Windows and [Microsoft .NET Framework 4.7.2](#) or higher are needed.

Stable version


The "Stable Version" is the CrypTool 2 release version. All components contained in this version have been extensively tested.

The current release version is **CrypTool 2.1 (Stable Build 9033.1)** with the build date **12.07.2021 16:14:31**.









.EXE Download
Stable Version (202.02 MB)


.zip Download
Stable Version (211.91 MB)







- Download .exe file and run the file or download .zip file, extract the file and then run the file. Open it.


CrypTool 2.1 (Stable Build 9033.1) – Startcenter

[Home](#)
[Edit](#)
[Crypto Tutorials](#)

File
Execute
View










Startcenter
CrypToolStore
CrypCloud
Updates
Settings
Help

CRYPTOOL 2


Welcome to CrypTool 2. There are two ways for a quick start: Click on the wizard button in the section "Main Functions" to get a guided tour, or load one of the pre-defined workflows in the section "Templates" which demonstrate the program functionality in cryptographic scenarios.


Main functions


Create a new workspace with the graphical editor


Use the wizard to easily try some CrypTool 2 features

External resources


View a tutorial video about CrypTool 2 on YouTube


Open the CrypTool Book

Templates (double click to open)

242

Cryptography

Cryptanalysis

Hash Functions

YouTube videos (double click to open)

Let's Decipher Two Encrypted English Postcards

Numbers Stations Explained – Let's Simulate Our Own

Chancinher – The Cipher Ninku Wanted

Recently opened workspaces (double click to open)

☒ Show this welcome screen at startup

- Open a new project or existing project and do practice in CrypTool.