Links E2EE הדגשות: חשוב ביותר מועיל מאוד רגיל פחות חשוב הדגשות: חשוב ביותר מועיל מאוד רגיל פחות חשוב למרות ההשקעה המשמעותית באיסוף הקישורים וסינונם, לא בטוח שהם הטובים ביותר!

מימוש פרוטוקול דומה(אבל שונה) בעברית עם הקוד בפייתון (הקישור לגיט שבסוף אינו תקין): https://digitalwhisper.co.il/files/Zines/0xA1/DW161-3-E2EEncryption.pdf

General explanation: <a href="https://www.preveil.com/blog/end-to-end-encryption">https://www.preveil.com/blog/end-to-end-encryption</a>

Wiki: <a href="https://en.wikipedia.org/wiki/End-to-end\_encryption">https://en.wikipedia.org/wiki/End-to-end\_encryption</a>

Good explanation(IBM): <a href="https://www.ibm.com/topics/end-to-end-encryption">https://www.ibm.com/topics/end-to-end-encryption</a>

Differences from alike: <a href="https://blog.cubbit.io/end-to-end-encryption-explained">https://blog.cubbit.io/end-to-end-encryption-explained</a>

**Steps in general:** <a href="https://myasir360.medium.com/implementing-end-to-end-encryption-in-messaging-apps-a-step-by-step-guide-aa4fed09bdb7">https://myasir360.medium.com/implementing-end-to-end-encryption-in-messaging-apps-a-step-by-step-guide-aa4fed09bdb7</a>

One more: <a href="https://www.preveil.com/blog/end-to-end-">https://www.preveil.com/blog/end-to-end-</a>

encryption/#:~:text=End%2Dto%2Dend%20encryption%20example,-

<u>Let's%20take%20an&text=Bob%20wants%20to%20send%20Alice,encrypted%20me</u>ssage%20to%20Alice's%20device

**Step by step in short:** <a href="https://www.kiteworks.com/secure-file-sharing/real-world-examples-of-end-to-end-encryption">https://www.kiteworks.com/secure-file-sharing/real-world-examples-of-end-to-end-encryption</a>

With vulnerabilities: <a href="https://www.aciworldwide.com/end-to-end-encryption">https://www.aciworldwide.com/end-to-end-encryption</a>

MITM: <a href="https://security.stackexchange.com/questions/211828/man-in-the-middle-attacks-in-end-to-end-encryption">https://security.stackexchange.com/questions/211828/man-in-the-middle-attacks-in-end-to-end-encryption</a>

Profound, too complicated: <a href="https://www.qed42.com/insights/developing-a-real-time-secure-chat-application-like-whatsapp-signal-with-end-to-end-encryption">https://www.qed42.com/insights/developing-a-real-time-secure-chat-application-like-whatsapp-signal-with-end-to-end-encryption</a>

**Python implementations:** <a href="https://medium.com/@maxel333/asymmetric-encryption-understanding-end-to-end-encryption-e2ee-in-python-a9abcf1d157">https://medium.com/@maxel333/asymmetric-encryption-understanding-end-to-end-encryption-e2ee-in-python-a9abcf1d157</a>

 $\underline{https://medium.com/@halildeniz313/unlock-the-power-of-end-to-end-encryption-with-python-85a199b4f18f}$ 

https://denizhalil.com/2024/05/27/end-to-end-encryption-python

Git: https://github.com/anishvedant/End-to-End-Encryption

Many steps implemented: <a href="https://github.com/geniuszlyy/GenE2EETool">https://github.com/geniuszlyy/GenE2EETool</a>

E2EEchat(no need to implement): <a href="https://github.com/ludvigknutsmark/python-chat">https://github.com/ludvigknutsmark/python-chat</a>

E2EE Messaging implementation:

https://libraetd.lib.virginia.edu/downloads/3b5919466?filename=Yelisetty\_Rithik\_Prospectus.pdf

Some Python functions: https://iha089.org.in/end-to-end-encryption-with-python

Whatsapp: <a href="https://ocw.cs.pub.ro/courses/ac/laboratoare/08">https://ocw.cs.pub.ro/courses/ac/laboratoare/08</a>
<a href="https://ocw.cs.pub.ro/courses/ac/laboratoare/09">https://ocw.cs.pub.ro/courses/ac/laboratoare/09</a>

Python crash course: https://ocw.cs.pub.ro/courses/ac/laboratoare/01

## Possible Attacks

https://arminstraub.com/downloads/teaching/cryptography-spring17/lecture32.pdf https://github.com/Akhi-99/Attacks-on-RSA

https://crypto.stackexchange.com/questions/2323/how-does-a-chosen-plaintext-attack-on-rsa-work

https://asecuritysite.com/encryption/c\_c

## Decoder

https://www.dcode.fr/rsa-cipher https://github.com/ihebski/factordb

## **Key derivation- password/passphrase length(on the page 11):**

https://nvlpubs.nist.gov/nistpubs/Legacy/SP/nistspecialpublication800-132.pdf https://www.ssh.com/academy/ssh/passphrase

**Public exponent**(enough to read one and understand what and why is important):

https://en.wikipedia.org/wiki/RSA\_(cryptosystem)

 $\frac{https://stackoverflow.com/questions/6098381/what-are-common-rsa-sign-exponent}{https://crypto.stackexchange.com/questions/18031/how-to-find-modulus-from-a-rsa-public-key}$