**Help JAVA and PYTHON with a bridge!!!**

Let’s take the friendship to next level :). We now want to exchange information and loads of it, securely, and with others too.

**Problem Statement**

Help JAVA and PYTHON make the communication encrypted via Cryptography algorithms like Perfect Forward Secrecy (PFS), and the Double Ratchet Algorithm ([DRA](https://en.wikipedia.org/wiki/Double_Ratchet_Algorithm)).

Every msg to accompany with token and secret key to track intended recipient.

For reference can use : <https://whispersystems.org/blog/whatsapp-complete/> and <https://whispersystems.org/blog/advanced-ratcheting/>

1. Make the communication one to many and many to one.
2. Make the service listen continuously on a port until purposefully killed.
3. Make the communication show on browser for both parties.
4. Add image transfer between sockets support: Additional 10 points for this.

**Input:**

* Implement DRA and/or PFS params.
* Image file to upload.

**Output:**

Create the response in such a way that it returns:

1. No data loss. Resend data if no confirmation received from socket B.
2. Channels to be used for data transfer.
3. Code optimization for least memory usage.
4. No data persistence.

Constraints:

1. No one should be able to intercept decoded data even with IP spoofing and port / socket listener.
2. Image should not be more than 2 mb.
3. Functionality should not halt even with a page refresh just like gmail attachment upload.