

PB173 - Tématický vývoj aplikací v C/C++

Domain specific development in C/C++

(Fall 2014)

Skupina: [Aplikovaná kryptografie a bezpečné programování](https://is.muni.cz/auth/el/1433/podzim2013/PB173/index.qwarp?fakulta=1433;obdobi=5983;predmet=734514;prejit=2957738;)

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Petr Švenda svenda@fi.muni.cz

Konzultace: A406, Pondělí 15-15:50

CRCS

Centre for Research on
Cryptography and Security

Practical assignment

- List of connected clients on server
 - At least 5 clients in parallel
 - List with client info kept by server (ID, IP, port...)
 - Client can request list of other connected clients
- Communication between client and client
 - Connect to another client based on the information from server
 - Transfer encrypted data packet with variable length (code from 2. seminar)
- Create (automatic) unit tests
 - List clients (0, 1, N+1...)
 - Test multiple clients connections to server (load test)
 - Connection to client available / not available
 - Encrypted data transferred from client to client (and back)
 - ...

Automate!

- Automate build
 - Just Makefile without IDE
- Start server and multiple clients with script
 - Port parameterization via cmd line?
- Execute all unit tests by single command
 - Prepare your project for Continuous Integration (CI)

Make strong tests

- Packet repeater instead of isConnected()
 - Test generated packet with content R
 - Test uses client to send packet with R
 - Server transform R into R' (reverse bytes, append string...)
 - Client receives R' and return to Test
 - Test verifies R'
- Test on localhost as well as separate machines
- Log data used during test
- Test with multiple clients, not just one