



# Basic Networking With Qt

<http://woboq.com/>

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# About myself

- Markus Goetz
- Born near Stuttgart
- Worked for Nokia in Oslo 2009 - 2011
- Co-Founder of Woboq in Berlin
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## My IT related interests

- My passion is networks
- "Distributed systems" at university
- Coded some network stuff in free time
- First contact at Qt 2.x
- Helped developing Qt 4.5 to 5.0

# Goal of this presentation

- Learn a bit about internet protocols
- Familiarize you with Qt's network stack
- Create a small application with you

# The Internet

- TCP
- UDP
- DNS
- SSL
- HTTP
- FTP

# Qt Network Stack

- TCP - QTcpSocket, QTcpServer
- UDP - QUdpSocket
- DNS - QHostInfo
- SSL - QSslSocket, QSsl\*
- HTTP - QNetworkAccessManager(, QHttp)
- FTP - QNetworkAccessManager(, QFtp)
- IPC - QLocalSocket

# Considerations

- Threading
- Synchronous vs asynchronous API
- IPv4 vs IPv6

# Let's code

- Chat application
- Serverless (aka P2P)
- Auto discovery of nodes
- C++ and QML/Javascript



# Let's code

Auto Discovery

Receiving Chat Messages

Sending Chat Messages

# Let's code

## Auto Discovery

- UDP Broadcast
- Works on LAN

## Receiving Chat Messages

## Sending Chat Messages

# Let's code

## Auto Discovery

## Receiving Chat Messages

- Implement a HTTP server
- TCP server socket
- Handler object for each connection

## Sending Chat Messages

# Let's code

Auto Discovery

Receiving Chat Messages

Sending Chat Messages

- HTTP POST
- XML
- Do it in QML

Download the code from <https://github.com/woboq>

## Related topics

- SSL
- Bearer management

# Conclusion

- You have learnt some basic knowledge about internet protocols
- You have seen how to do some basic network coding with Qt

## Q & A

- Thank you!
- Any questions?
- Feel free to e-mail me
  - `markus@woboq.com`
- Also on IRC
  - `irc.freenode.net` as `mgoetz`
- Get the code we did on
  - `https://github.com/woboq`