# Communication Networks Spring 2022



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https://comm-net.ethz.ch/

ETH Zürich April 28 2022



## Communication Networks Exercise 8



#### Routing project information

Introduction to this week's exercise

Time to solve the exercise/ask questions

#### Project deadline is tomorrow at midnight

Make sure that you push your final config, report and declaration of originality to your GitLab repository

Late submissions are possible but will result in partial credits as described here: <u>https://comm-net.ethz.ch/</u>

Let us know via Slack or email if there are any problems But don't expect us to answer late at night

### Fill out the declaration of originality

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#### Fill out the declaration of originality

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Would allow us to detect
 severe problems, e.g. one
 student who did not work at all

Normally, every group member will get the same final grade

#### Important information to your report

Remove unrelated entries from e.g., print screens Only show the relevant pieces

As long as we can easily understand what you want to express, we do not care about the report layout

If you cannot show something because of your neighbors, explain that in the report and we will accept it Submission demo

Watch the recorded video!

The demo closely follows the instructions from the wiki ("1.1 General Instructions")

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#### Task 8.1: Putting Everything Together



For each router and prefix, find the selected egress and next-hop

#### Task 8.1: Putting Everything Together



#### Task 8.2: Traffic (not so much) Engineered



Remember, forwarding based on the longest-matching prefix

Task 8.3: BGP Hijack



Explore different attack scenarios with various success and visibility

#### Task 8.3: BGP Hijack

For this exercise, assume that AS G (victim) always prefers its internal route to reach IPs in 20.0.0/22

#### You will encounter the principle of AS path poisoning

Abuse the BGP loop prevention mechanism, by adding specific ASes to the AS path

AS path poisoning gives the hijacker some control over which ASes are/are not affected by the hijack

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