

---

## **Praktikum Rechnernetze**

Protokoll zu Versuch 9 (Netzmanagement und  
Netzanalyse) von Gruppe 1

Jakob Waibel, Daniel Hiller, Elia Wüstner, Felix Pojtinger

2021-12-07

## Inhaltsverzeichnis

<b>1</b>	<b>Einführung</b>	<b>3</b>
1.1	Mitwirken . . . . .	3
1.2	Lizenz . . . . .	3
<b>2</b>	<b>SNMP</b>	<b>4</b>

# 1 Einführung

## 1.1 Mitwirken

Diese Materialien basieren auf [Professor Kiefers “Praktikum Rechnernetze”-Vorlesung der HdM Stuttgart](#).

**Sie haben einen Fehler gefunden oder haben einen Verbesserungsvorschlag?** Bitte eröffnen Sie ein Issue auf GitHub ([github.com/pojntfx/uni-netpractice-notes](https://github.com/pojntfx/uni-netpractice-notes)):



**Abbildung 1:** QR-Code zum Quelltext auf GitHub

Wenn Ihnen die Materialien gefallen, würden wir uns über einen GitHub-Stern sehr freuen.

## 1.2 Lizenz

Dieses Dokument und der enthaltene Quelltext ist freie Kultur bzw. freie Software.



**Abbildung 2:** Badge der AGPL-3.0-Lizenz

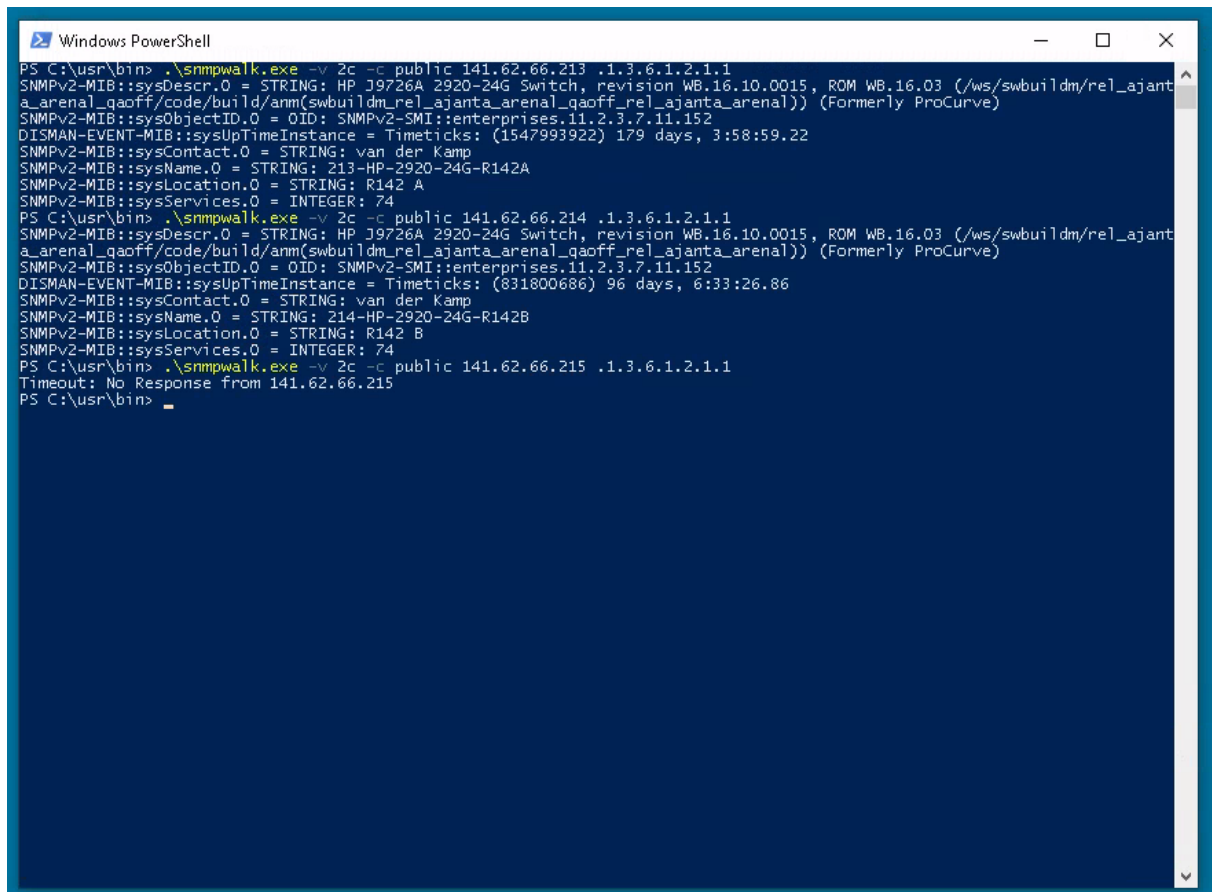
Uni Network Practice Notes (c) 2021 Jakob Waibel, Daniel Hiller, Elia Wüstner, Felix Pojtinger

SPDX-License-Identifier: AGPL-3.0

## 2 SNMP

**Erkennen Sie, wer der Verwalter des Gerätes 141.62.66.213, 141.62.66.214 und 141.62.66.215 ist (sysContact)? Starten Sie eine Anfrage an einen Switch, die die Systeminfos abruft.**

141.62.66.215 war wie auf dem Screenshot zu sehen ist zum Zeitpunkt der Versuchsdurchführung nicht erreichbar.



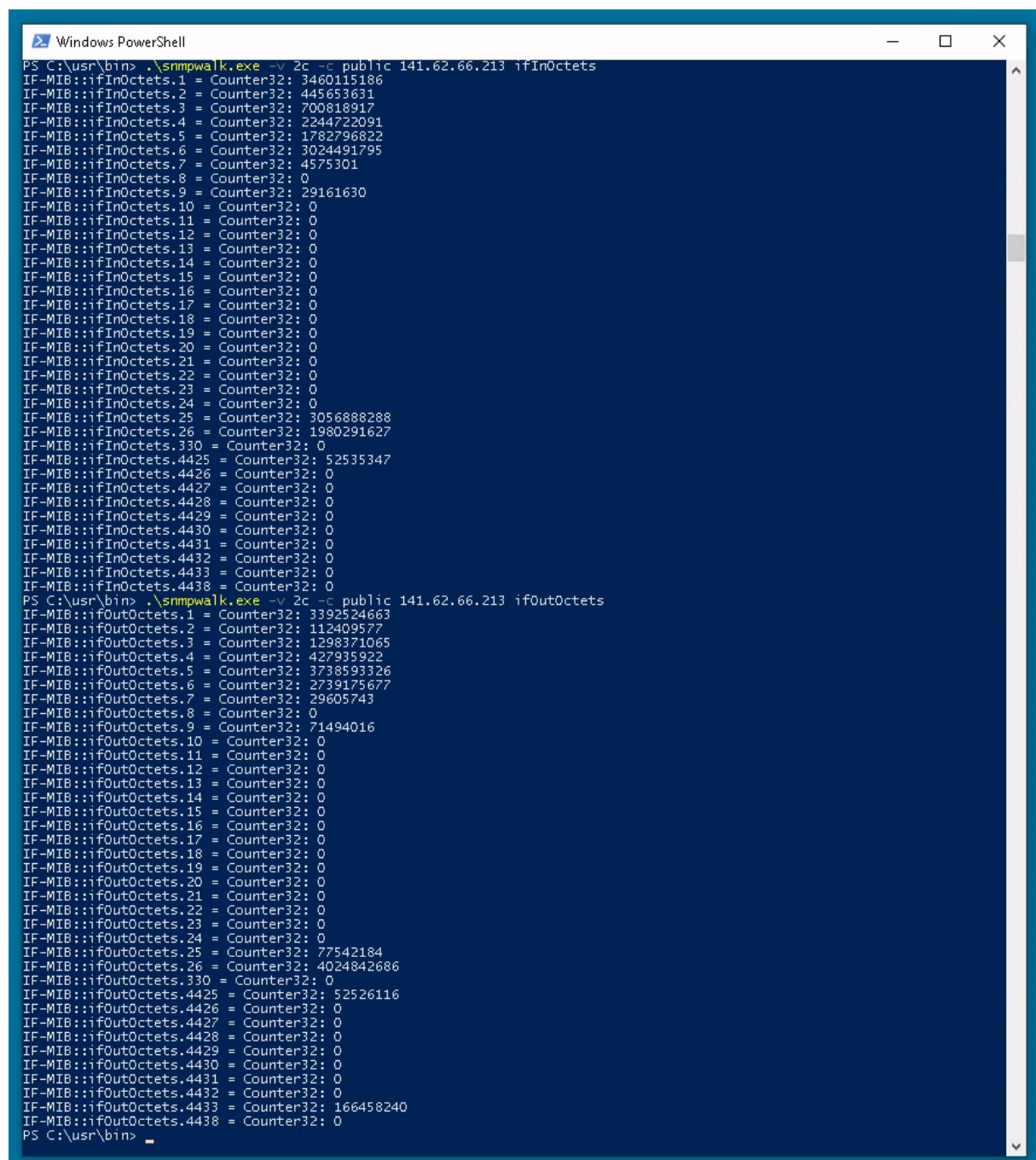
```
PS C:\usr\bin> .\snmpwalk.exe -v 2c -c public 141.62.66.213 .1.3.6.1.2.1.1
SNMPv2-MIB::sysDescr.0 = STRING: HP J9726A 2920-24G Switch, revision WB.16.10.0015, ROM WB.16.03 (/ws/swbuildm/rel_ajanta_arenal_gaooff/code/build/ann(swbuildm_rel_ajanta_arenal_gaooff_rel_ajanta_arenal)) (Formerly ProCurve)
SNMPv2-MIB::sysObjectID.0 = OID: SNMPv2-SMI::enterprises.11.2.3.7.11.152
DISMAN-EVENT-MIB::sysUpTimeInstance = Timeticks: (1547993922) 179 days, 3:58:59.22
SNMPv2-MIB::sysContact.0 = STRING: van der Kamp
SNMPv2-MIB::sysName.0 = STRING: 213-HP-2920-24G-R142A
SNMPv2-MIB::sysLocation.0 = STRING: R142 A
SNMPv2-MIB::sysServices.0 = INTEGER: 74
PS C:\usr\bin> .\snmpwalk.exe -v 2c -c public 141.62.66.214 .1.3.6.1.2.1.1
SNMPv2-MIB::sysDescr.0 = STRING: HP J9726A 2920-24G Switch, revision WB.16.10.0015, ROM WB.16.03 (/ws/swbuildm/rel_ajanta_arenal_gaooff/code/build/ann(swbuildm_rel_ajanta_arenal_gaooff_rel_ajanta_arenal)) (Formerly ProCurve)
SNMPv2-MIB::sysObjectID.0 = OID: SNMPv2-SMI::enterprises.11.2.3.7.11.152
DISMAN-EVENT-MIB::sysUpTimeInstance = Timeticks: (831800686) 96 days, 6:33:26.86
SNMPv2-MIB::sysContact.0 = STRING: van der Kamp
SNMPv2-MIB::sysName.0 = STRING: 214-HP-2920-24G-R142B
SNMPv2-MIB::sysLocation.0 = STRING: R142 B
SNMPv2-MIB::sysServices.0 = INTEGER: 74
PS C:\usr\bin> .\snmpwalk.exe -v 2c -c public 141.62.66.215 .1.3.6.1.2.1.1
Timeout: No Response from 141.62.66.215
PS C:\usr\bin>
```

**Abbildung 3:** Ergebnis der Abfrage (van der Kamp)

**Nutzen Sie den Befehl snmpwalk, um zu ergründen auf welchem Switchport (141.62.66.213, 141.62.66.214 oder 141.62.66.215) wie viel los war. Um welche Einheit handelt es sich? Auf welchem Switchport war bisher offensichtlich kein PC angesteckt?**

TODO: Add interpretation

141.62.66.215 war zum Zeitpunkt der Versuchsdurchführung nicht erreichbar.



```
PS C:\usr\bin> .\snmpwalk.exe -v 2c -c public 141.62.66.213 ifInOctets
IF-MIB::ifInOctets.1 = Counter32: 3460115186
IF-MIB::ifInOctets.2 = Counter32: 445653631
IF-MIB::ifInOctets.3 = Counter32: 700818917
IF-MIB::ifInOctets.4 = Counter32: 2244722091
IF-MIB::ifInOctets.5 = Counter32: 1782796822
IF-MIB::ifInOctets.6 = Counter32: 3024491795
IF-MIB::ifInOctets.7 = Counter32: 4575301
IF-MIB::ifInOctets.8 = Counter32: 0
IF-MIB::ifInOctets.9 = Counter32: 29161630
IF-MIB::ifInOctets.10 = Counter32: 0
IF-MIB::ifInOctets.11 = Counter32: 0
IF-MIB::ifInOctets.12 = Counter32: 0
IF-MIB::ifInOctets.13 = Counter32: 0
IF-MIB::ifInOctets.14 = Counter32: 0
IF-MIB::ifInOctets.15 = Counter32: 0
IF-MIB::ifInOctets.16 = Counter32: 0
IF-MIB::ifInOctets.17 = Counter32: 0
IF-MIB::ifInOctets.18 = Counter32: 0
IF-MIB::ifInOctets.19 = Counter32: 0
IF-MIB::ifInOctets.20 = Counter32: 0
IF-MIB::ifInOctets.21 = Counter32: 0
IF-MIB::ifInOctets.22 = Counter32: 0
IF-MIB::ifInOctets.23 = Counter32: 0
IF-MIB::ifInOctets.24 = Counter32: 0
IF-MIB::ifInOctets.25 = Counter32: 3056888288
IF-MIB::ifInOctets.26 = Counter32: 1980291627
IF-MIB::ifInOctets.330 = Counter32: 0
IF-MIB::ifInOctets.4425 = Counter32: 52535347
IF-MIB::ifInOctets.4426 = Counter32: 0
IF-MIB::ifInOctets.4427 = Counter32: 0
IF-MIB::ifInOctets.4428 = Counter32: 0
IF-MIB::ifInOctets.4429 = Counter32: 0
IF-MIB::ifInOctets.4430 = Counter32: 0
IF-MIB::ifInOctets.4431 = Counter32: 0
IF-MIB::ifInOctets.4432 = Counter32: 0
IF-MIB::ifInOctets.4433 = Counter32: 0
IF-MIB::ifInOctets.4438 = Counter32: 0
PS C:\usr\bin> .\snmpwalk.exe -v 2c -c public 141.62.66.213 ifOutOctets
IF-MIB::ifOutOctets.1 = Counter32: 3392524663
IF-MIB::ifOutOctets.2 = Counter32: 112409577
IF-MIB::ifOutOctets.3 = Counter32: 1298371065
IF-MIB::ifOutOctets.4 = Counter32: 427935922
IF-MIB::ifOutOctets.5 = Counter32: 3738593326
IF-MIB::ifOutOctets.6 = Counter32: 2739175677
IF-MIB::ifOutOctets.7 = Counter32: 29605743
IF-MIB::ifOutOctets.8 = Counter32: 0
IF-MIB::ifOutOctets.9 = Counter32: 71494016
IF-MIB::ifOutOctets.10 = Counter32: 0
IF-MIB::ifOutOctets.11 = Counter32: 0
IF-MIB::ifOutOctets.12 = Counter32: 0
IF-MIB::ifOutOctets.13 = Counter32: 0
IF-MIB::ifOutOctets.14 = Counter32: 0
IF-MIB::ifOutOctets.15 = Counter32: 0
IF-MIB::ifOutOctets.16 = Counter32: 0
IF-MIB::ifOutOctets.17 = Counter32: 0
IF-MIB::ifOutOctets.18 = Counter32: 0
IF-MIB::ifOutOctets.19 = Counter32: 0
IF-MIB::ifOutOctets.20 = Counter32: 0
IF-MIB::ifOutOctets.21 = Counter32: 0
IF-MIB::ifOutOctets.22 = Counter32: 0
IF-MIB::ifOutOctets.23 = Counter32: 0
IF-MIB::ifOutOctets.24 = Counter32: 0
IF-MIB::ifOutOctets.25 = Counter32: 77542184
IF-MIB::ifOutOctets.26 = Counter32: 4024842686
IF-MIB::ifOutOctets.330 = Counter32: 0
IF-MIB::ifOutOctets.4425 = Counter32: 52526116
IF-MIB::ifOutOctets.4426 = Counter32: 0
IF-MIB::ifOutOctets.4427 = Counter32: 0
IF-MIB::ifOutOctets.4428 = Counter32: 0
IF-MIB::ifOutOctets.4429 = Counter32: 0
IF-MIB::ifOutOctets.4430 = Counter32: 0
IF-MIB::ifOutOctets.4431 = Counter32: 0
IF-MIB::ifOutOctets.4432 = Counter32: 0
IF-MIB::ifOutOctets.4433 = Counter32: 166458240
IF-MIB::ifOutOctets.4438 = Counter32: 0
PS C:\usr\bin>
```

**Abbildung 4:** Ergebnis der Abfrage auf 141.62.66.213

```

PS C:\usr\bin> .\snmpwalk.exe -v 2c -c public 141.62.66.214 ifInOctets
IF-MIB::ifInOctets.1 = Counter32: 19204783
IF-MIB::ifInOctets.2 = Counter32: 2933211595
IF-MIB::ifInOctets.3 = Counter32: 0
IF-MIB::ifInOctets.4 = Counter32: 1173218484
IF-MIB::ifInOctets.5 = Counter32: 0
IF-MIB::ifInOctets.6 = Counter32: 1805346398
IF-MIB::ifInOctets.7 = Counter32: 0
IF-MIB::ifInOctets.8 = Counter32: 761122113
IF-MIB::ifInOctets.9 = Counter32: 466846
IF-MIB::ifInOctets.10 = Counter32: 1427522648
IF-MIB::ifInOctets.11 = Counter32: 562318
IF-MIB::ifInOctets.12 = Counter32: 3203873898
IF-MIB::ifInOctets.13 = Counter32: 0
IF-MIB::ifInOctets.14 = Counter32: 0
IF-MIB::ifInOctets.15 = Counter32: 0
IF-MIB::ifInOctets.16 = Counter32: 0
IF-MIB::ifInOctets.17 = Counter32: 10968960
IF-MIB::ifInOctets.18 = Counter32: 0
IF-MIB::ifInOctets.19 = Counter32: 3087867
IF-MIB::ifInOctets.20 = Counter32: 0
IF-MIB::ifInOctets.21 = Counter32: 0
IF-MIB::ifInOctets.22 = Counter32: 0
IF-MIB::ifInOctets.23 = Counter32: 0
IF-MIB::ifInOctets.24 = Counter32: 0
IF-MIB::ifInOctets.25 = Counter32: 2357467405
IF-MIB::ifInOctets.26 = Counter32: 429311930
IF-MIB::ifInOctets.330 = Counter32: 0
IF-MIB::ifInOctets.4425 = Counter32: 28191195
IF-MIB::ifInOctets.4426 = Counter32: 0
IF-MIB::ifInOctets.4427 = Counter32: 0
IF-MIB::ifInOctets.4428 = Counter32: 0
IF-MIB::ifInOctets.4429 = Counter32: 0
IF-MIB::ifInOctets.4430 = Counter32: 0
IF-MIB::ifInOctets.4431 = Counter32: 0
IF-MIB::ifInOctets.4432 = Counter32: 0
IF-MIB::ifInOctets.4433 = Counter32: 0
IF-MIB::ifInOctets.4438 = Counter32: 0
PS C:\usr\bin> .\snmpwalk.exe -v 2c -c public 141.62.66.214 ifOutOctets
IF-MIB::ifOutOctets.1 = Counter32: 125161715
IF-MIB::ifOutOctets.2 = Counter32: 988279594
IF-MIB::ifOutOctets.3 = Counter32: 0
IF-MIB::ifOutOctets.4 = Counter32: 3290705986
IF-MIB::ifOutOctets.5 = Counter32: 0
IF-MIB::ifOutOctets.6 = Counter32: 950556673
IF-MIB::ifOutOctets.7 = Counter32: 0
IF-MIB::ifOutOctets.8 = Counter32: 3129404361
IF-MIB::ifOutOctets.9 = Counter32: 5952445
IF-MIB::ifOutOctets.10 = Counter32: 2876235434
IF-MIB::ifOutOctets.11 = Counter32: 337557
IF-MIB::ifOutOctets.12 = Counter32: 843873624
IF-MIB::ifOutOctets.13 = Counter32: 0
IF-MIB::ifOutOctets.14 = Counter32: 0
IF-MIB::ifOutOctets.15 = Counter32: 0
IF-MIB::ifOutOctets.16 = Counter32: 0
IF-MIB::ifOutOctets.17 = Counter32: 679308169
IF-MIB::ifOutOctets.18 = Counter32: 0
IF-MIB::ifOutOctets.19 = Counter32: 672646993
IF-MIB::ifOutOctets.20 = Counter32: 0
IF-MIB::ifOutOctets.21 = Counter32: 0
IF-MIB::ifOutOctets.22 = Counter32: 0
IF-MIB::ifOutOctets.23 = Counter32: 0
IF-MIB::ifOutOctets.24 = Counter32: 0
IF-MIB::ifOutOctets.25 = Counter32: 1796700246
IF-MIB::ifOutOctets.26 = Counter32: 2489630489
IF-MIB::ifOutOctets.330 = Counter32: 0
IF-MIB::ifOutOctets.4425 = Counter32: 28190856
IF-MIB::ifOutOctets.4426 = Counter32: 0
IF-MIB::ifOutOctets.4427 = Counter32: 0
IF-MIB::ifOutOctets.4428 = Counter32: 0
IF-MIB::ifOutOctets.4429 = Counter32: 0
IF-MIB::ifOutOctets.4430 = Counter32: 0
IF-MIB::ifOutOctets.4431 = Counter32: 0
IF-MIB::ifOutOctets.4432 = Counter32: 0
IF-MIB::ifOutOctets.4433 = Counter32: 89450100
IF-MIB::ifOutOctets.4438 = Counter32: 0
PS C:\usr\bin>

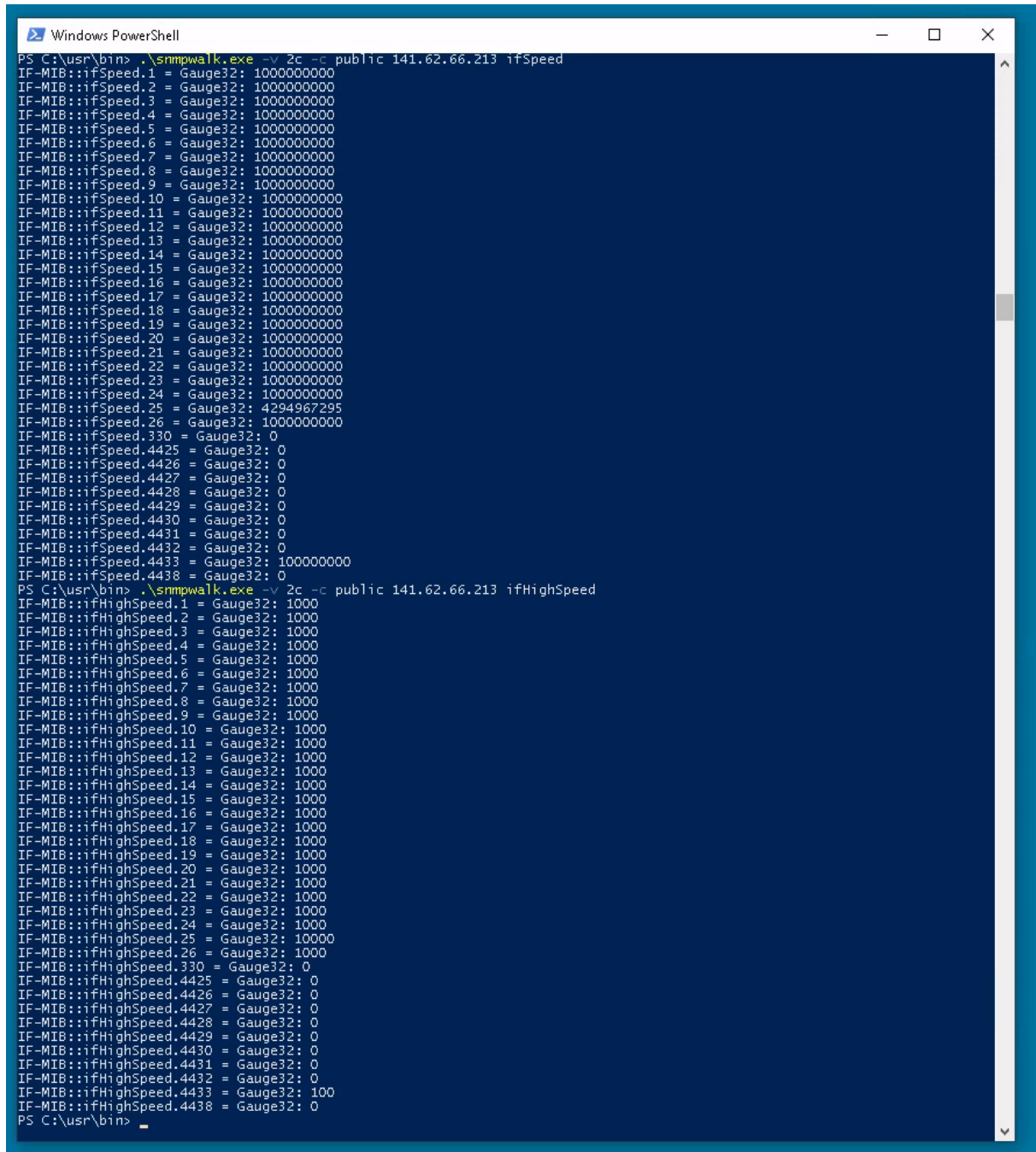
```

**Abbildung 5:** Ergebnis der Abfrage auf 141.62.66.214

**Welche „Geschwindigkeiten“ (10, 100, 1000 Mbit/s) haben die Interfaces derzeit jeweils und warum? Was ist das besondere bei Port 25 auf Switch 141.62.66.215 ? (Hinweis: ifSpeed vs. if-HighSpeed)**

TODO: Add interpretation

141.62.66.215 war zum Zeitpunkt der Versuchsdurchführung nicht erreichbar.



```
PS C:\usr\bin> .\snmpwalk.exe -v 2c -c public 141.62.66.213 ifSpeed
IF-MIB::ifSpeed.1 = Gauge32: 1000000000
IF-MIB::ifSpeed.2 = Gauge32: 1000000000
IF-MIB::ifSpeed.3 = Gauge32: 1000000000
IF-MIB::ifSpeed.4 = Gauge32: 1000000000
IF-MIB::ifSpeed.5 = Gauge32: 1000000000
IF-MIB::ifSpeed.6 = Gauge32: 1000000000
IF-MIB::ifSpeed.7 = Gauge32: 1000000000
IF-MIB::ifSpeed.8 = Gauge32: 1000000000
IF-MIB::ifSpeed.9 = Gauge32: 1000000000
IF-MIB::ifSpeed.10 = Gauge32: 1000000000
IF-MIB::ifSpeed.11 = Gauge32: 1000000000
IF-MIB::ifSpeed.12 = Gauge32: 1000000000
IF-MIB::ifSpeed.13 = Gauge32: 1000000000
IF-MIB::ifSpeed.14 = Gauge32: 1000000000
IF-MIB::ifSpeed.15 = Gauge32: 1000000000
IF-MIB::ifSpeed.16 = Gauge32: 1000000000
IF-MIB::ifSpeed.17 = Gauge32: 1000000000
IF-MIB::ifSpeed.18 = Gauge32: 1000000000
IF-MIB::ifSpeed.19 = Gauge32: 1000000000
IF-MIB::ifSpeed.20 = Gauge32: 1000000000
IF-MIB::ifSpeed.21 = Gauge32: 1000000000
IF-MIB::ifSpeed.22 = Gauge32: 1000000000
IF-MIB::ifSpeed.23 = Gauge32: 1000000000
IF-MIB::ifSpeed.24 = Gauge32: 1000000000
IF-MIB::ifSpeed.25 = Gauge32: 4294967295
IF-MIB::ifSpeed.26 = Gauge32: 1000000000
IF-MIB::ifSpeed.330 = Gauge32: 0
IF-MIB::ifSpeed.4425 = Gauge32: 0
IF-MIB::ifSpeed.4426 = Gauge32: 0
IF-MIB::ifSpeed.4427 = Gauge32: 0
IF-MIB::ifSpeed.4428 = Gauge32: 0
IF-MIB::ifSpeed.4429 = Gauge32: 0
IF-MIB::ifSpeed.4430 = Gauge32: 0
IF-MIB::ifSpeed.4431 = Gauge32: 0
IF-MIB::ifSpeed.4432 = Gauge32: 0
IF-MIB::ifSpeed.4433 = Gauge32: 1000000000
IF-MIB::ifSpeed.4438 = Gauge32: 0
PS C:\usr\bin> .\snmpwalk.exe -v 2c -c public 141.62.66.213 ifHighSpeed
IF-MIB::ifHighSpeed.1 = Gauge32: 1000
IF-MIB::ifHighSpeed.2 = Gauge32: 1000
IF-MIB::ifHighSpeed.3 = Gauge32: 1000
IF-MIB::ifHighSpeed.4 = Gauge32: 1000
IF-MIB::ifHighSpeed.5 = Gauge32: 1000
IF-MIB::ifHighSpeed.6 = Gauge32: 1000
IF-MIB::ifHighSpeed.7 = Gauge32: 1000
IF-MIB::ifHighSpeed.8 = Gauge32: 1000
IF-MIB::ifHighSpeed.9 = Gauge32: 1000
IF-MIB::ifHighSpeed.10 = Gauge32: 1000
IF-MIB::ifHighSpeed.11 = Gauge32: 1000
IF-MIB::ifHighSpeed.12 = Gauge32: 1000
IF-MIB::ifHighSpeed.13 = Gauge32: 1000
IF-MIB::ifHighSpeed.14 = Gauge32: 1000
IF-MIB::ifHighSpeed.15 = Gauge32: 1000
IF-MIB::ifHighSpeed.16 = Gauge32: 1000
IF-MIB::ifHighSpeed.17 = Gauge32: 1000
IF-MIB::ifHighSpeed.18 = Gauge32: 1000
IF-MIB::ifHighSpeed.19 = Gauge32: 1000
IF-MIB::ifHighSpeed.20 = Gauge32: 1000
IF-MIB::ifHighSpeed.21 = Gauge32: 1000
IF-MIB::ifHighSpeed.22 = Gauge32: 1000
IF-MIB::ifHighSpeed.23 = Gauge32: 1000
IF-MIB::ifHighSpeed.24 = Gauge32: 1000
IF-MIB::ifHighSpeed.25 = Gauge32: 10000
IF-MIB::ifHighSpeed.26 = Gauge32: 1000
IF-MIB::ifHighSpeed.330 = Gauge32: 0
IF-MIB::ifHighSpeed.4425 = Gauge32: 0
IF-MIB::ifHighSpeed.4426 = Gauge32: 0
IF-MIB::ifHighSpeed.4427 = Gauge32: 0
IF-MIB::ifHighSpeed.4428 = Gauge32: 0
IF-MIB::ifHighSpeed.4429 = Gauge32: 0
IF-MIB::ifHighSpeed.4430 = Gauge32: 0
IF-MIB::ifHighSpeed.4431 = Gauge32: 0
IF-MIB::ifHighSpeed.4432 = Gauge32: 0
IF-MIB::ifHighSpeed.4433 = Gauge32: 100
IF-MIB::ifHighSpeed.4438 = Gauge32: 0
PS C:\usr\bin>
```

Abbildung 6: Ergebnis der Abfrage auf 141.62.66.213



```

PS C:\usr\bin> .\snmpwalk.exe -v 2c -c public 141.62.66.214 ifSpeed
IF-MIB::ifSpeed.1 = Gauge32: 1000000000
IF-MIB::ifSpeed.2 = Gauge32: 1000000000
IF-MIB::ifSpeed.3 = Gauge32: 1000000000
IF-MIB::ifSpeed.4 = Gauge32: 1000000000
IF-MIB::ifSpeed.5 = Gauge32: 1000000000
IF-MIB::ifSpeed.6 = Gauge32: 1000000000
IF-MIB::ifSpeed.7 = Gauge32: 1000000000
IF-MIB::ifSpeed.8 = Gauge32: 1000000000
IF-MIB::ifSpeed.9 = Gauge32: 1000000000
IF-MIB::ifSpeed.10 = Gauge32: 1000000000
IF-MIB::ifSpeed.11 = Gauge32: 1000000000
IF-MIB::ifSpeed.12 = Gauge32: 1000000000
IF-MIB::ifSpeed.13 = Gauge32: 1000000000
IF-MIB::ifSpeed.14 = Gauge32: 1000000000
IF-MIB::ifSpeed.15 = Gauge32: 1000000000
IF-MIB::ifSpeed.16 = Gauge32: 1000000000
IF-MIB::ifSpeed.17 = Gauge32: 1000000000
IF-MIB::ifSpeed.18 = Gauge32: 1000000000
IF-MIB::ifSpeed.19 = Gauge32: 1000000000
IF-MIB::ifSpeed.20 = Gauge32: 1000000000
IF-MIB::ifSpeed.21 = Gauge32: 1000000000
IF-MIB::ifSpeed.22 = Gauge32: 1000000000
IF-MIB::ifSpeed.23 = Gauge32: 1000000000
IF-MIB::ifSpeed.24 = Gauge32: 1000000000
IF-MIB::ifSpeed.25 = Gauge32: 4294967295
IF-MIB::ifSpeed.26 = Gauge32: 1000000000
IF-MIB::ifSpeed.330 = Gauge32: 0
IF-MIB::ifSpeed.4425 = Gauge32: 0
IF-MIB::ifSpeed.4426 = Gauge32: 0
IF-MIB::ifSpeed.4427 = Gauge32: 0
IF-MIB::ifSpeed.4428 = Gauge32: 0
IF-MIB::ifSpeed.4429 = Gauge32: 0
IF-MIB::ifSpeed.4430 = Gauge32: 0
IF-MIB::ifSpeed.4431 = Gauge32: 0
IF-MIB::ifSpeed.4432 = Gauge32: 0
IF-MIB::ifSpeed.4433 = Gauge32: 1000000000
IF-MIB::ifSpeed.4438 = Gauge32: 0
PS C:\usr\bin> .\snmpwalk.exe -v 2c -c public 141.62.66.214 ifHighSpeed
IF-MIB::ifHighSpeed.1 = Gauge32: 1000
IF-MIB::ifHighSpeed.2 = Gauge32: 1000
IF-MIB::ifHighSpeed.3 = Gauge32: 1000
IF-MIB::ifHighSpeed.4 = Gauge32: 1000
IF-MIB::ifHighSpeed.5 = Gauge32: 1000
IF-MIB::ifHighSpeed.6 = Gauge32: 1000
IF-MIB::ifHighSpeed.7 = Gauge32: 1000
IF-MIB::ifHighSpeed.8 = Gauge32: 1000
IF-MIB::ifHighSpeed.9 = Gauge32: 1000
IF-MIB::ifHighSpeed.10 = Gauge32: 1000
IF-MIB::ifHighSpeed.11 = Gauge32: 1000
IF-MIB::ifHighSpeed.12 = Gauge32: 1000
IF-MIB::ifHighSpeed.13 = Gauge32: 1000
IF-MIB::ifHighSpeed.14 = Gauge32: 1000
IF-MIB::ifHighSpeed.15 = Gauge32: 1000
IF-MIB::ifHighSpeed.16 = Gauge32: 1000
IF-MIB::ifHighSpeed.17 = Gauge32: 1000
IF-MIB::ifHighSpeed.18 = Gauge32: 1000
IF-MIB::ifHighSpeed.19 = Gauge32: 1000
IF-MIB::ifHighSpeed.20 = Gauge32: 1000
IF-MIB::ifHighSpeed.21 = Gauge32: 1000
IF-MIB::ifHighSpeed.22 = Gauge32: 1000
IF-MIB::ifHighSpeed.23 = Gauge32: 1000
IF-MIB::ifHighSpeed.24 = Gauge32: 1000
IF-MIB::ifHighSpeed.25 = Gauge32: 1000000000
IF-MIB::ifHighSpeed.26 = Gauge32: 1000
IF-MIB::ifHighSpeed.330 = Gauge32: 0
IF-MIB::ifHighSpeed.4425 = Gauge32: 0
IF-MIB::ifHighSpeed.4426 = Gauge32: 0
IF-MIB::ifHighSpeed.4427 = Gauge32: 0
IF-MIB::ifHighSpeed.4428 = Gauge32: 0
IF-MIB::ifHighSpeed.4429 = Gauge32: 0
IF-MIB::ifHighSpeed.4430 = Gauge32: 0
IF-MIB::ifHighSpeed.4431 = Gauge32: 0
IF-MIB::ifHighSpeed.4432 = Gauge32: 0
IF-MIB::ifHighSpeed.4433 = Gauge32: 100
IF-MIB::ifHighSpeed.4438 = Gauge32: 0
PS C:\usr\bin>

```

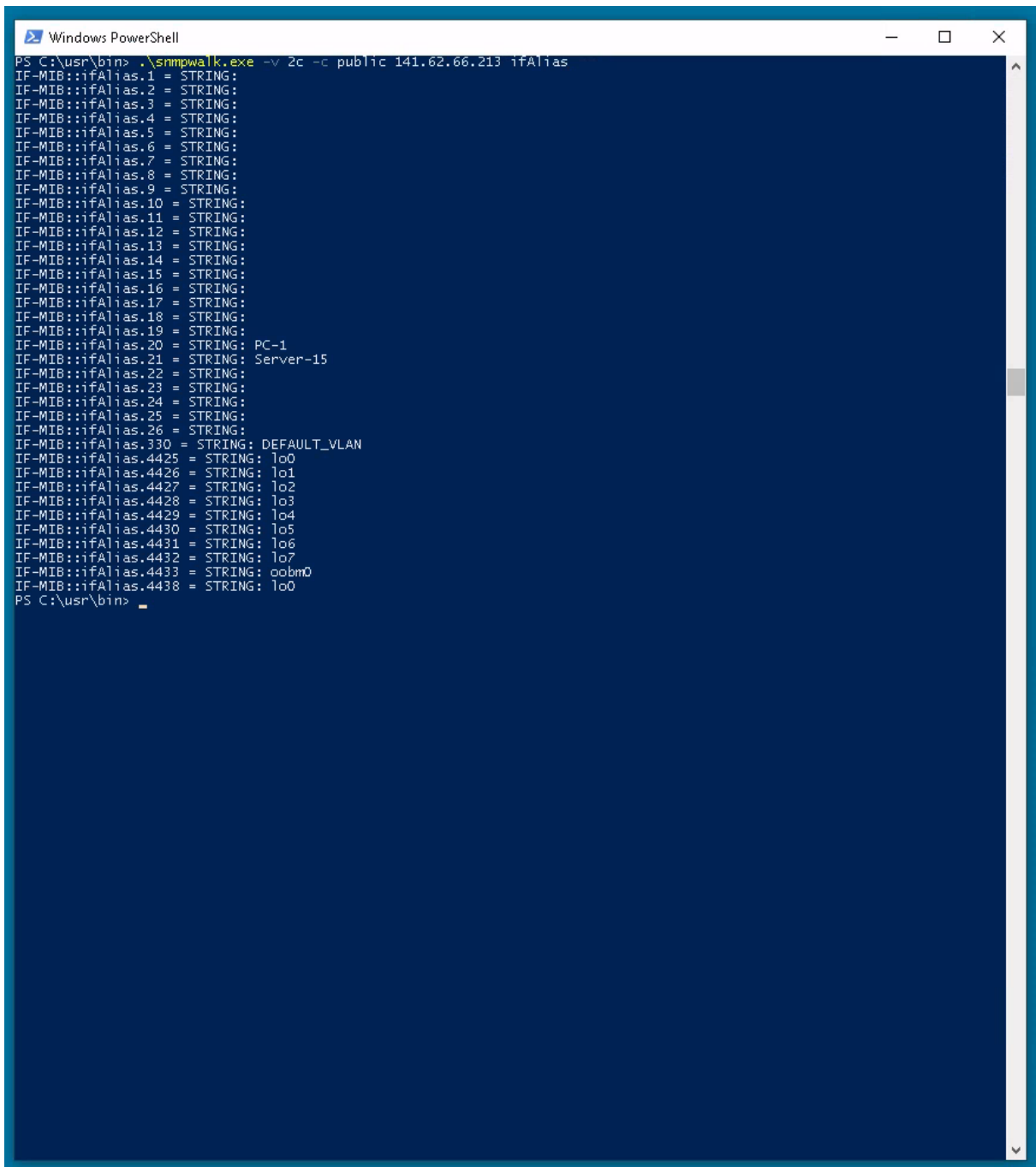
Abbildung 7: Ergebnis der Abfrage auf 141.62.66.214

**Welche Geräte sind auf welchen Ports (141.62.66.213 oder .214, .215) angeschlossen (Hinseis: ifAlias)?**

TODO: Add interpretation

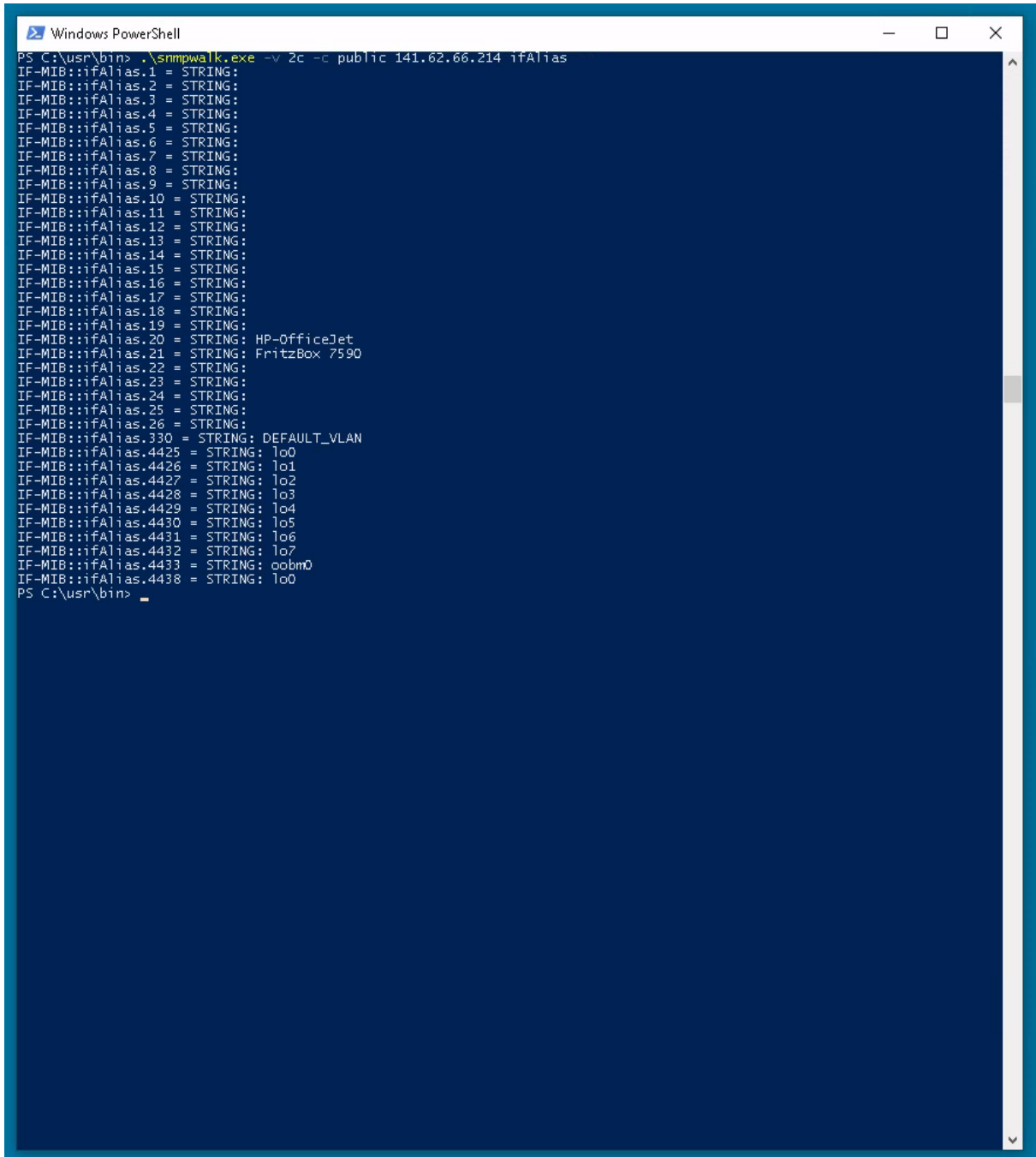


141.62.66.215 war zum Zeitpunkt der Versuchsdurchführung nicht erreichbar.



```
PS C:\usr\bin> .\snmpwalk.exe -v 2c -c public 141.62.66.213 ifAlias
IF-MIB::ifAlias.1 = STRING:
IF-MIB::ifAlias.2 = STRING:
IF-MIB::ifAlias.3 = STRING:
IF-MIB::ifAlias.4 = STRING:
IF-MIB::ifAlias.5 = STRING:
IF-MIB::ifAlias.6 = STRING:
IF-MIB::ifAlias.7 = STRING:
IF-MIB::ifAlias.8 = STRING:
IF-MIB::ifAlias.9 = STRING:
IF-MIB::ifAlias.10 = STRING:
IF-MIB::ifAlias.11 = STRING:
IF-MIB::ifAlias.12 = STRING:
IF-MIB::ifAlias.13 = STRING:
IF-MIB::ifAlias.14 = STRING:
IF-MIB::ifAlias.15 = STRING:
IF-MIB::ifAlias.16 = STRING:
IF-MIB::ifAlias.17 = STRING:
IF-MIB::ifAlias.18 = STRING:
IF-MIB::ifAlias.19 = STRING:
IF-MIB::ifAlias.20 = STRING: PC-1
IF-MIB::ifAlias.21 = STRING: Server-15
IF-MIB::ifAlias.22 = STRING:
IF-MIB::ifAlias.23 = STRING:
IF-MIB::ifAlias.24 = STRING:
IF-MIB::ifAlias.25 = STRING:
IF-MIB::ifAlias.26 = STRING:
IF-MIB::ifAlias.330 = STRING: DEFAULT_VLAN
IF-MIB::ifAlias.4425 = STRING: lo0
IF-MIB::ifAlias.4426 = STRING: lo1
IF-MIB::ifAlias.4427 = STRING: lo2
IF-MIB::ifAlias.4428 = STRING: lo3
IF-MIB::ifAlias.4429 = STRING: lo4
IF-MIB::ifAlias.4430 = STRING: lo5
IF-MIB::ifAlias.4431 = STRING: lo6
IF-MIB::ifAlias.4432 = STRING: lo7
IF-MIB::ifAlias.4433 = STRING: oobm0
IF-MIB::ifAlias.4438 = STRING: lo0
PS C:\usr\bin>
```

**Abbildung 8:** Ergebnis der Abfrage auf 141.62.66.213



```
PS C:\usr\bin> .\snmpwalk.exe -v 2c -c public 141.62.66.214 ifAlias
IF-MIB::ifAlias.1 = STRING:
IF-MIB::ifAlias.2 = STRING:
IF-MIB::ifAlias.3 = STRING:
IF-MIB::ifAlias.4 = STRING:
IF-MIB::ifAlias.5 = STRING:
IF-MIB::ifAlias.6 = STRING:
IF-MIB::ifAlias.7 = STRING:
IF-MIB::ifAlias.8 = STRING:
IF-MIB::ifAlias.9 = STRING:
IF-MIB::ifAlias.10 = STRING:
IF-MIB::ifAlias.11 = STRING:
IF-MIB::ifAlias.12 = STRING:
IF-MIB::ifAlias.13 = STRING:
IF-MIB::ifAlias.14 = STRING:
IF-MIB::ifAlias.15 = STRING:
IF-MIB::ifAlias.16 = STRING:
IF-MIB::ifAlias.17 = STRING:
IF-MIB::ifAlias.18 = STRING:
IF-MIB::ifAlias.19 = STRING:
IF-MIB::ifAlias.20 = STRING: HP-OfficeJet
IF-MIB::ifAlias.21 = STRING: FritzBox 7590
IF-MIB::ifAlias.22 = STRING:
IF-MIB::ifAlias.23 = STRING:
IF-MIB::ifAlias.24 = STRING:
IF-MIB::ifAlias.25 = STRING:
IF-MIB::ifAlias.26 = STRING:
IF-MIB::ifAlias.330 = STRING: DEFAULT_VLAN
IF-MIB::ifAlias.4425 = STRING: lo0
IF-MIB::ifAlias.4426 = STRING: lo1
IF-MIB::ifAlias.4427 = STRING: lo2
IF-MIB::ifAlias.4428 = STRING: lo3
IF-MIB::ifAlias.4429 = STRING: lo4
IF-MIB::ifAlias.4430 = STRING: lo5
IF-MIB::ifAlias.4431 = STRING: lo6
IF-MIB::ifAlias.4432 = STRING: lo7
IF-MIB::ifAlias.4433 = STRING: oobm0
IF-MIB::ifAlias.4438 = STRING: lo0
PS C:\usr\bin>
```

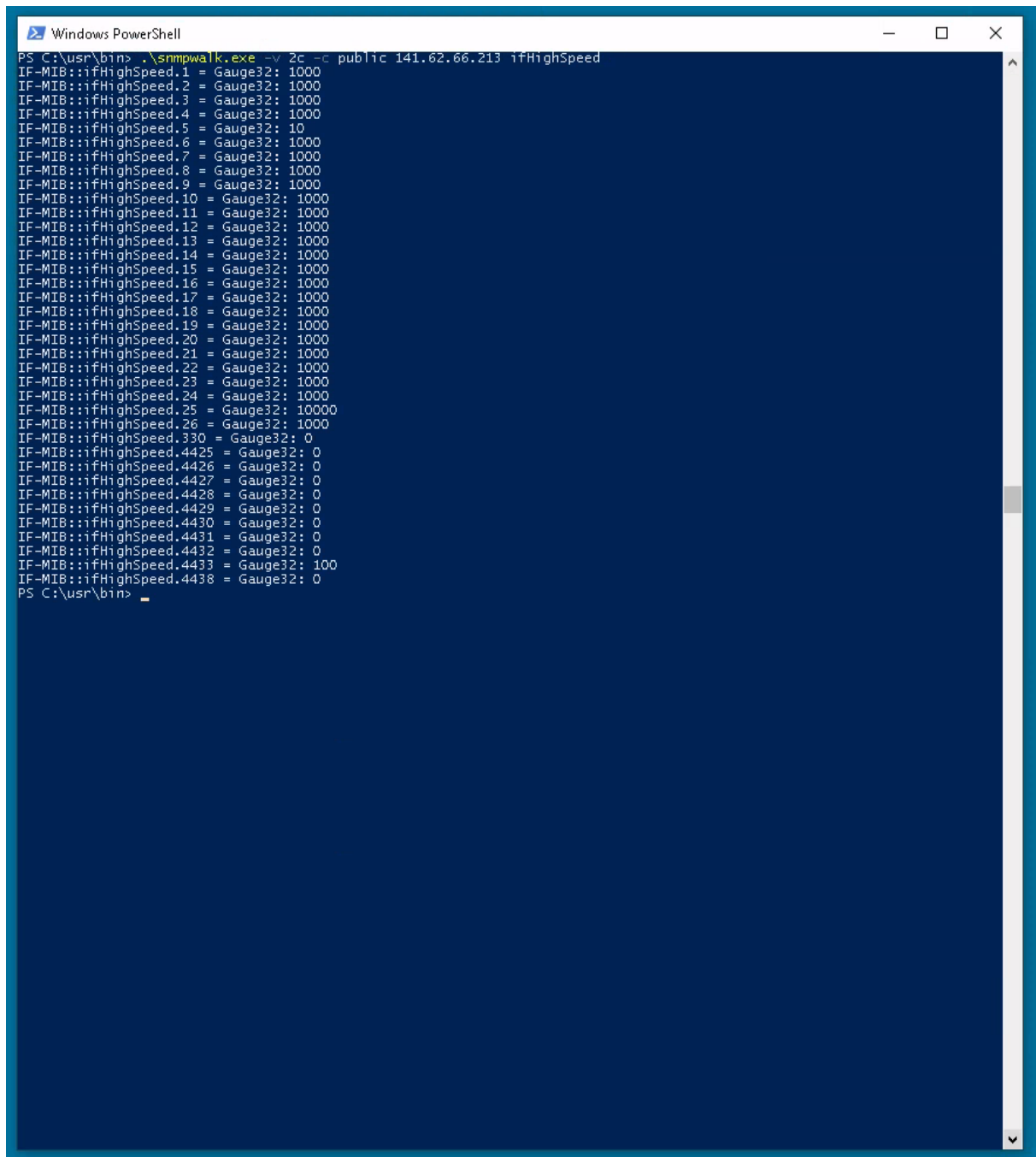
**Abbildung 9:** Ergebnis der Abfrage auf 141.62.66.214

**Gibt es Unterschiede beispielsweise zwischen PCs die angeschaltet sind und solchen, die zwar angeschlossen, aber ausgeschaltet sind (Hinweis: Erkennbar an der Port-Geschwindigkeit) ?**

Alle Geräte bei uns sind angeschlossen und deren Ports werden als 1 Gigabit-Port dargestellt; Alias 25

aber wird als 10 Gigabit-Port dargestellt. Alias 4433 wird als 100 MBit-Port dargestellt.

Nachdem der Rechner **rn04** ausgeschaltet wurde, findet sich für den Switch mit der IP 141.62.66.214 an Port 5 die Geschwindigkeit 10 Mbit:

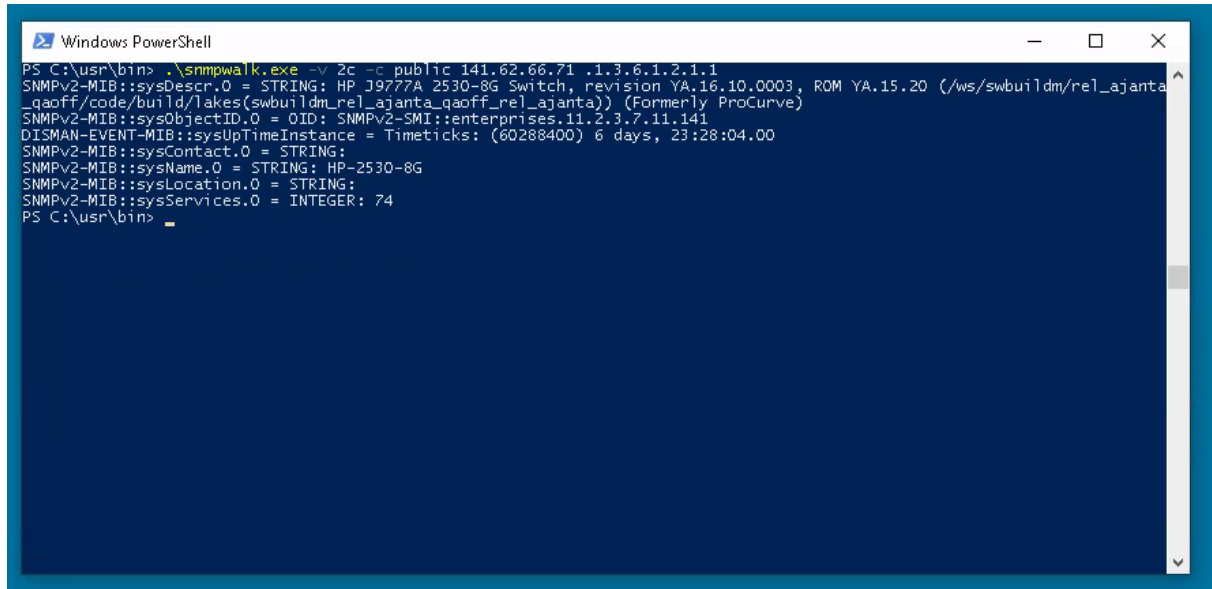


```
PS C:\usr\bin> .\snmpwalk.exe -v 2c -c public 141.62.66.213 ifHighSpeed
IF-MIB::ifHighSpeed.1 = Gauge32: 1000
IF-MIB::ifHighSpeed.2 = Gauge32: 1000
IF-MIB::ifHighSpeed.3 = Gauge32: 1000
IF-MIB::ifHighSpeed.4 = Gauge32: 1000
IF-MIB::ifHighSpeed.5 = Gauge32: 10
IF-MIB::ifHighSpeed.6 = Gauge32: 1000
IF-MIB::ifHighSpeed.7 = Gauge32: 1000
IF-MIB::ifHighSpeed.8 = Gauge32: 1000
IF-MIB::ifHighSpeed.9 = Gauge32: 1000
IF-MIB::ifHighSpeed.10 = Gauge32: 1000
IF-MIB::ifHighSpeed.11 = Gauge32: 1000
IF-MIB::ifHighSpeed.12 = Gauge32: 1000
IF-MIB::ifHighSpeed.13 = Gauge32: 1000
IF-MIB::ifHighSpeed.14 = Gauge32: 1000
IF-MIB::ifHighSpeed.15 = Gauge32: 1000
IF-MIB::ifHighSpeed.16 = Gauge32: 1000
IF-MIB::ifHighSpeed.17 = Gauge32: 1000
IF-MIB::ifHighSpeed.18 = Gauge32: 1000
IF-MIB::ifHighSpeed.19 = Gauge32: 1000
IF-MIB::ifHighSpeed.20 = Gauge32: 1000
IF-MIB::ifHighSpeed.21 = Gauge32: 1000
IF-MIB::ifHighSpeed.22 = Gauge32: 1000
IF-MIB::ifHighSpeed.23 = Gauge32: 1000
IF-MIB::ifHighSpeed.24 = Gauge32: 1000
IF-MIB::ifHighSpeed.25 = Gauge32: 10000
IF-MIB::ifHighSpeed.26 = Gauge32: 1000
IF-MIB::ifHighSpeed.330 = Gauge32: 0
IF-MIB::ifHighSpeed.4425 = Gauge32: 0
IF-MIB::ifHighSpeed.4426 = Gauge32: 0
IF-MIB::ifHighSpeed.4427 = Gauge32: 0
IF-MIB::ifHighSpeed.4428 = Gauge32: 0
IF-MIB::ifHighSpeed.4429 = Gauge32: 0
IF-MIB::ifHighSpeed.4430 = Gauge32: 0
IF-MIB::ifHighSpeed.4431 = Gauge32: 0
IF-MIB::ifHighSpeed.4432 = Gauge32: 0
IF-MIB::ifHighSpeed.4433 = Gauge32: 100
IF-MIB::ifHighSpeed.4438 = Gauge32: 0
PS C:\usr\bin>
```

**Abbildung 10:** Ergebnis der Abfrage auf 141.62.66.214

Zu sehen ist also, dass für ausgeschaltene PCs die Port-Geschwindigkeit auf 10 Mbit sinkt.

**Wie sieht ein entsprechender snmpwalk bei ihrem Switch aus (objectID: .1.3.6.1.2.1.1)?**



```
Windows PowerShell
PS C:\usr\bin> .\snmpwalk.exe -v 2c -c public 141.62.66.71 .1.3.6.1.2.1.1
SNMPv2-MIB::sysDescr.0 = STRING: HP J9777A 2530-8G Switch, revision YA.16.10.0003, ROM YA.15.20 (/ws/swbuildm/rel_ajanta
_qaooff/code/build/takes(swbuildm_rel_ajanta_qaooff_rel_ajanta)) (Formerly ProCurve)
SNMPv2-MIB::sysObjectID.0 = OID: SNMPv2-SMI::enterprises.11.2.3.7.11.141
DISMAN-EVENT-MIB::sysUpTimeInstance = Timeticks: (60288400) 6 days, 23:28:04.00
SNMPv2-MIB::sysContact.0 = STRING:
SNMPv2-MIB::sysName.0 = STRING: HP-2530-8G
SNMPv2-MIB::sysLocation.0 = STRING:
SNMPv2-MIB::sysServices.0 = INTEGER: 74
PS C:\usr\bin>
```

**Abbildung 11:** Ergebnis der Abfrage auf 141.62.66.71

**Setzen Sie mit snmpset einen Ansprechpartner auf ihrem Switch. Überprüfen sie ihre Einstellung!**

141.62.66.71 war ab diesem Zeitpunkt der Versuchsdurchführung nicht mehr erreichbar; wir sind auf den Rechner [rn02](#) ausgewichen, mit dem Switch 14.62.66.72.

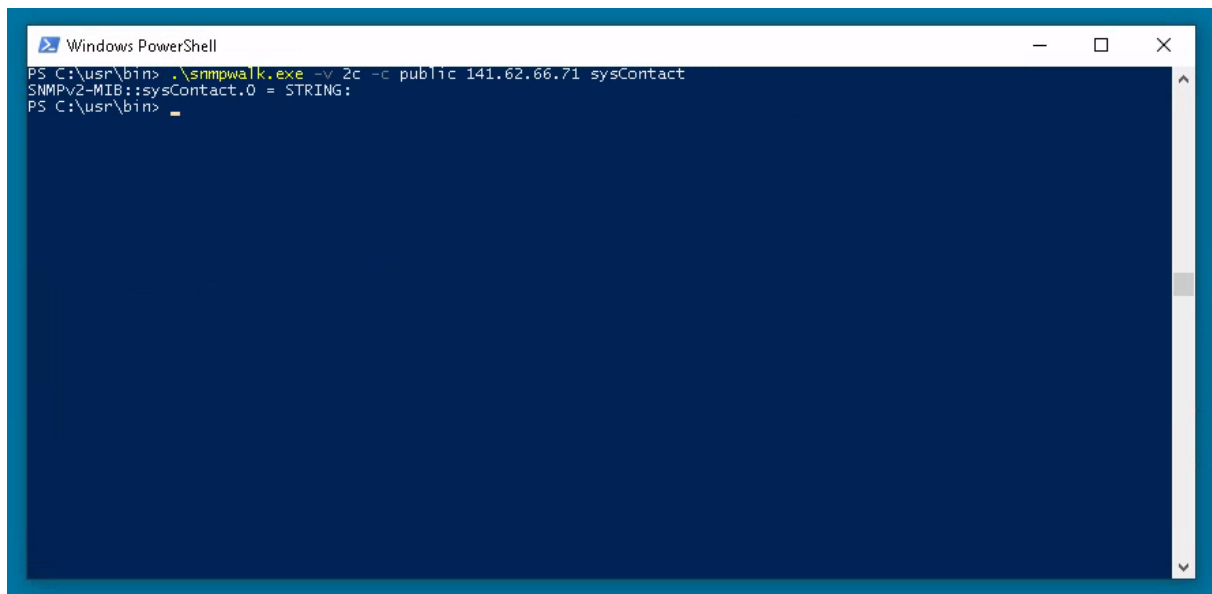


Abbildung 12: Ergebnis der Abfrage auf 141.62.66.72

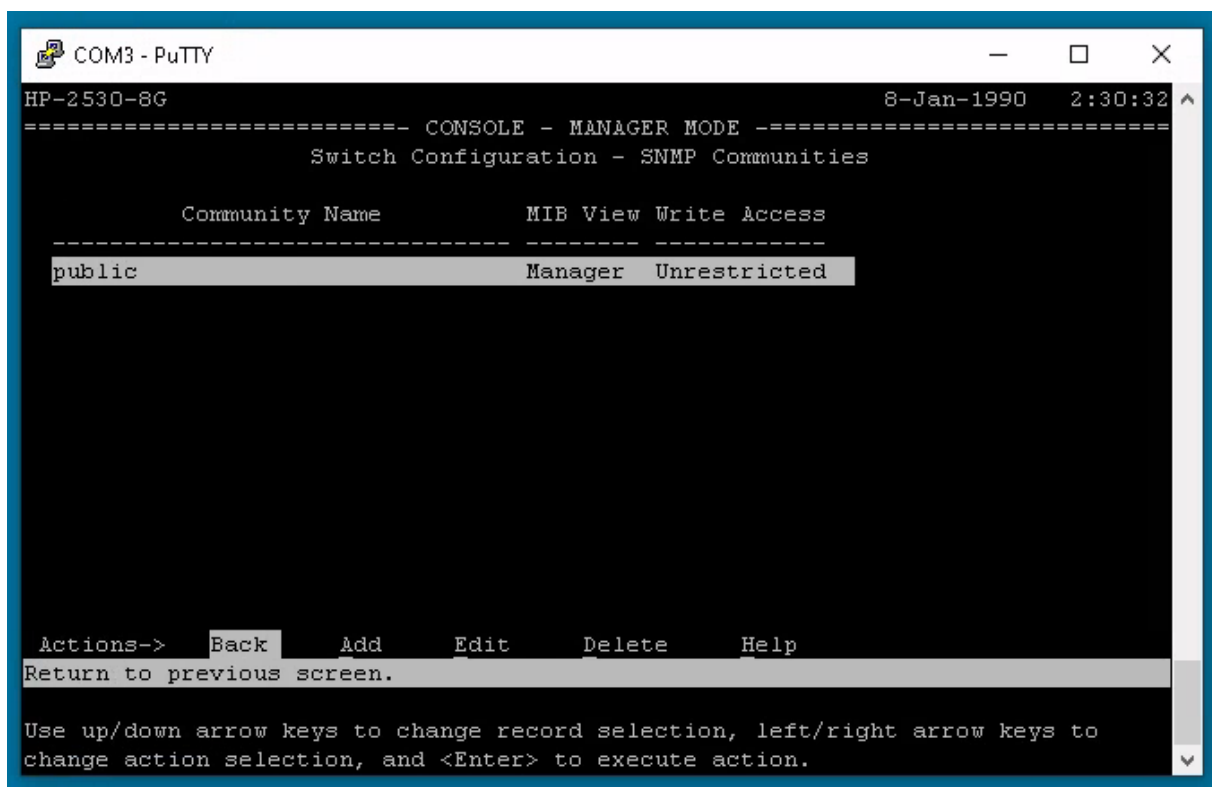


Abbildung 13: Aktivieren von SNMP-Schreibzugriff

TODO: Add next steps

**Verändern Sie mittels snmpset die Namen einzelner Switchports.**

TODO: Add answer

**Setzen Sie mit snmpset einen beliebigen Switchport auf disable (Vorsicht: „Schneiden Sie sich nicht den Ast auf dem Sie sitzen ab!“)**

TODO: Add answer

**Wie ändert man den System-Namen des Switches?**

TODO: Add answer