1. При помощи анализатора протоколов Wireshark исследовать и описать работу команды ping.

Например: ping 8.8.8.8;

Команда ping в Windows (и в командной строке, CMD) используется для проверки сетевого соединения между вашим компьютером и другим устройством (сервером или другим компьютером). Она отправляет небольшие пакеты данных (эхо-запросы) и измеряет время, которое они затратили на дорогу туда и обратно. Это позволяет определить, есть ли связь между компьютерами, насколько она надежна, и какие могут быть проблемы с сетью.

Подробнее о работе команды ping:

1. 1. Отправка эхо-запросов:

Команда ping отправляет ICMP эхо-запросы на указанный IP-адрес или доменное имя.

2. 2. Измерение времени:

Отслеживается время, которое требуется для отправки запроса, его получения и возвращения ответного пакета.

3. З. Оценка соединения:

По результатам измерения времени и количества утерянных пакетов можно судить о качестве сетевого соединения.

4. 4. Информация о соединении:

В результате работы ping вы получаете информацию о времени отклика (RTT), количестве утерянных пакетов и другие данные, полезные для диагностики сети.

Для чего используется команда ping:

Проверка связи:

Можно быстро проверить, существует ли сетевое соединение с конкретным устройством.

• Оценка производительности:

Время отклика (ping) может быть использовано для оценки качества сетевого соединения.

• Выявление проблем:

Если пакеты не возвращаются или задерживаются, это может указывать на проблемы с сетью.

• Устранение неполадок:

Ping помогает выявить и устранить проблемы, связанные с подключением к сети.

Пример использования:

Код

ping google.com

Эта команда отправляет эхо-запросы на сервер Google и отображает информацию о времени отклика и количестве утерянных пакетов.

```
74 Echo (ping) request id=00:0001, seq=27/6912, ttl=128 (reply in 305)
74 Echo (ping) reply id=00:0001, seq=27/6912, ttl=108 (request in 304)
66 57321 * 08 (SVM) Seq=0 Win=55555 Len=0 MSS=1460 WS=326 SACK_PERM
66 80 = 57321 SVM, ACK] Seq=0 Ack=1 Win=62200 Len=0 WSS=1440 SACK_PERM
54 57321 * 08 (ENM) Seq=0 Ack=1 Win=65200 Len=0
66 57322 * 08 (SVM) Seq=0 Win=55535 Len=0 MSS=1460 WS=256 SACK_PERM
66 57322 * 08 (SVM) Seq=0 Win=55535 Len=0 MSS=1460 WS=256 SACK_PERM
60 08 = 57321 [FNM, ACK] Seq=1 Ack=2 Win=65200 Len=0
27 Application Data
167 Application Data
168 49899 * 443 [ACK] Seq=5372 Ack=4950 Win=254 Len=0
74 Echo (ping) request id=0x0001, seq=28/7168, ttl=128 (reply in 317)
74 Echo (ping) reply id=0x0001, seq=28/7168, ttl=108 (request in 316)
60 [GCP Retensisision] 57222 * 00 [SVM] Seq=0 Win=5555 Len=0 MS=3400
74 Echo (ping) request id=0x0001, seq=28/7168, ttl=108 (request in 316)
60 [GCP Retensisision] 57222 * 00 [SVM] Seq=0 Win=5555 Len=0 MSS=3400

        304 72.458246
        [192.168.0.131
        [8.8.8.8

        305 72.480112
        8.8.8.8
        192.168.0.131

        306 72.742803
        192.168.0.131
        47.103.37.176

        307 72.973472
        47.103.37.176
        192.168.0.131

        308 72.973781
        192.168.0.131
        47.103.37.176

        309 72.975228
        192.168.0.131
        47.103.37.176

        311 73.206441
        47.103.37.176
        192.168.0.131

        311 73.206441
        47.103.37.176
        192.168.0.131

        312 73.206825
        192.168.0.131
        47.103.37.176

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TCP
TCP
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TCSV1.2
TLSV1.2
TCP
ICMP
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192.168.0.131
192.168.0.131
                                                                                                                                                                                                                                                                                                   149.154.167.99
                       316 73.479268
                                                                                                                                                                                                                                                                                                   8.8.8.8
| 318 73,986811 | 192,168.0.131 | 10.1.1.81 | TCP | 66 | [TCP Retranssission] | 57322 * 88 [S/N] | Seq-0 Min-5535 | Len-0 MS5-1460 MS-256 SACK_PERM |
| 319 74.494785 | 192,168.0.131 | 8.8.8.8 | ICMP | 74 Echo (ping) reply | id-0x0001, seq-28/7168, ttl-108 (request in 316) |
| 310 74.516719 | 8.8.8.8 | 192,168.0.131 | ICMP | 74 Echo (ping) reply | id-0x0001, seq-29/7244, ttl-128 (reply in 320) |
| 312 75.510903 | 192,168.0.131 | 8.8.8.8 | ICMP | 74 Echo (ping) reply | id-0x0001, seq-29/7244, ttl-108 (request in 319) |
| 312 75.532777 | 8.8.8.8 | 192,168.0.131 | ICMP | 74 Echo (ping) reply | id-0x0001, seq-29/7244, ttl-108 (request in 312) |
| 312 75.733775 | 192,168.0.1 | 192,168.0.155 | IDMP | 366 43281 * 200021 | Len-126* |
| Frame 304: 74 bytes on wire (592 bits), 74 bytes captured (592 bits) on interface \Device\NF_{(8DE25619-C6F9-4160-8231-761A128802E3}), id 0 |
| Ethernet II, 5rc: MicroStarlIM_0bit76113 (d8:43:ae:9b:76133), pst: TpLinkTechno_24:e0:d7 (84:d8:1b:24:e0:d7) |
| Therent Frotocol Version 4, 5rc: 192,168.0.131, Dst: 8.8.8.8 |
| Internet Control Message Protocol |
| Type: 8 (Echo (ping) repust) |
| Code: 0 | Checkswii: 0x4440 [Correct] |
                         Checksum: 0x4d40 [correct]
[Checksum Status: Good]
                       [Checksum Status: Good]
Identifier (BE): 1 (0x00001)
Identifier (LE): 256 (0x0100)
Sequence Number (BE): 27 (0x001b)
Sequence Number (LE): 6912 (0x1000)
```

```
74 Echo (ping) reply id=0x0001, seq-27/6912, ttl=108 (request in 304)
66 57321 + 30 [SYN] Seq=0 Win=65335 Len=0 MSS=1460 WS=256 SACK_PERM
66 80 + 57321 [SYN, ACK] Seq=0 ACk=1 Win=29200 Len=0 MSS=1440 SACK_PERM WS=512
54 57321 + 30 [CK], Seq=1 ACk=1 Win=65280 Len=0
54 57321 + 30 [FIN, ACK] Seq=2 ACk=1 Win=65280 Len=0
65 57322 + 30 [SYN] Seq=0 Win=65335 Len=0 MSS=1460 WS=256 SACK_PERM
60 80 + 57321 [FIN, ACK] Seq=1 ACk=2 Win=29690 Len=0
237 Application Data
167 Application Data
167 Application Data
168 49899 + 443 [ACK] Seq=3372 ACk=4950 Win=254 Len=0
74 Echo (ping) request id=0x0001, seq=28/7168, ttl=128 (reply in 317)
74 Echo (ping) reply id=0x0001, seq=28/7168, ttl=128 (reply in 317)
74 Echo (ping) reply id=0x0001, seq=29/7424, ttl=108 (request in 316)
74 Echo (ping) reply id=0x0001, seq=29/7424, ttl=108 (request in 319)
74 Echo (ping) reply id=0x0001, seq=29/7424, ttl=108 (request in 319)
74 Echo (ping) reply id=0x0001, seq=29/7424, ttl=108 (request in 319)
74 Echo (ping) reply id=0x0001, seq=29/7424, ttl=108 (request in 319)
74 Echo (ping) reply id=0x0001, seq=39/7608, ttl=1108 (request in 321)
368 43783 + 20802 Len=3256
                          306 72.742803
307 72.973472
308 72.973781
309 72.975228
310 72.97569
311 73.206441
312 73.206441
312 73.353526
313 73.353526
314 73.35491
315 73.446999
316 73.479268
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                                                                                                                                                                                                                                                                                                                                                                      192.168.0.131
47.103.37.176
47.103.37.176
10.1.1.81
192.168.0.131
47.103.37.176
149.154.167.99
192.168.0.131
149.154.167.99
8.8.8.8
                          317 73.591223 8.8.8.8 318 73.986511 192.168.0.131 319 74.494785 192.168.0.131 320 74.516719 8.8.8.8 321 75.516993 192.168.0.131 322 75.532777 8.8.8.8. 323 75.532777 8.8.8.8. 323 75.937956 192.168.0.1
                                                                                                                                                                                                                                                                                                                                                              10.1.1.81
                                                                                                                                                                                                                                                                                                                                                                         8.8.8.8
192.168.0.131
132.106.0.1 122.106.0.12 10.109 74 Echo (ping) reply id-0x0001, seq-30/7680, ttl-108 (request in 321)

Frame 305: 74 bytes on wire (592 bits), 74 bytes control (592 bits) on interface (Device/HPF [design-2-16]) (design-2-16]) (design-2-16] (design-2-16]) (design-2-16] (design-2-16]
```

```
ر حد uytes)
Data: 6162636465666768696a6b6c6d6e6f7071727374757677616263646566676869
[Length: 32]
```

```
C:\Users\Admin>ping 8.8.8.8
Обмен пакетами с 8.8.8.8 по с 32 байтами данных:
Ответ от 8.8.8.8: число байт=32 время=21мс TTL=108
Ответ от 8.8.8.8: число байт=32 время=22мс TTL=108
Ответ от 8.8.8.8: число байт=32 время=22мс TTL=108
Ответ от 8.8.8.8: число байт=32 время=22мс TTL=108
Статистика Ping для 8.8.8.8:
    Пакетов: отправлено = 4, получено = 4, потеряно = 0
    (0% потерь)
Приблизительное время приема-передачи в мс:
    Минимальное = 21мсек, Максимальное = 22 мсек, Среднее = 21 мсек
C:\Users\Admin>
```

2. При помощи анализатора протоколов Wireshark исследовать и описать работу команды tracert Hanpumep: tracert -d -w 1 8.8.8.8;

Команда tracert в командной строке Windows (cmd) используется для трассировки пути, по которому пакеты данных проходят от вашего компьютера до указанного адреса (IP-адрес или доменное имя). Она отображает все промежуточные маршрутизаторы, которые пакеты пересекают на пути к целевому хосту.

Как работает tracert:

1. 1. Отправка пакетов ІСМР:

tracert отправляет серию пакетов ICMP (Internet Control Message Protocol) с постепенно увеличивающимся значением Time To Live (TTL).

2. **2. TTL** и время жизни пакета:

TTL — это поле в заголовке пакета, которое определяет, сколько хопов (маршрутизаторов) пакет может пройти до того, как будет удален.

3. 3. ICMP "Time Exceeded" сообщения:

Каждый маршрутизатор на пути уменьшает значение TTL на 1. Когда TTL достигает нуля, маршрутизатор отправляет ICMP "Time Exceeded" сообщение обратно на источник.

4. 4. Определение маршрута:

tracert использует эти ICMP "Time Exceeded" сообщения, чтобы определить, какие маршрутизаторы находятся на пути к целевому хосту.

5. 5. Вывод информации:

tracert отображает список всех маршрутизаторов, через которые проходят пакеты, а также время, затраченное на прохождение пакета через каждый маршрутизатор.

Зачем нужна tracert:

• Диагностика сетевых проблем:

tracert помогает выявлять проблемы в сети, например, если какие-то маршрутизаторы не отвечают или пакеты теряются.

• Понимание сетевого маршрута:

tracert позволяет узнать, какой маршрут выбирается для передачи данных от вашего компьютера до удаленного хоста.

• Определение задержек:

tracert показывает, сколько времени занимает прохождение пакета через каждый маршрутизатор, что может помочь выявить источники задержек.

Пример использования:

Код

tracert www.google.com

Этот пример покажет трассировку пути к сайту google.com.

Существует несколько параметров командной строки, которые можно использовать с помощью команды TRACERT, несмотря на то, что параметры не являются обычно требуются для стандартных неполадок. В следующем примере синтаксис команды показывает все возможные варианты:

Tracert -d -h максЧисло -j списокУзлов - w Таймаут target_host

Что делают параметры:

- -d Указывает, что адреса не следует преобразовывать в имена хостов
- -h Указывает максимальное количество переходов для поиска цели.
- -ј Указывает свободный исходный маршрут по списку хостов
- -w Ожидает указанное время ожидания в миллисекундах для каждого ответа

target_host Указывает имя или IP-адрес целевого хоста

tracert -d -w 1 8.8.8.8

III				
18393 1138.988862 18394 1138.989359	192.168.0.131	8.8.8.8 192.168.0.131	ICMP ICMP	106 Echo (ping) request id=0x0001, seq=31/7936, ttl=1 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit)
18395 1138.989933	192.168.0.131	8.8.8.8	ICMP	106 Echo (ping) request id=0x0001, seq=32/8192, ttl=1 (no response found!)
18396 1138.990219	192.168.0.1	192.168.0.131	TCMP	134 Time-to-live exceeded (Time to live exceeded in transit)
18397 1138.990780	192.168.0.131	8.8.8.8	ICMP	106 Echo (ping) request id=0x0001, seq=33/8448, ttl=1 (no response found!)
18398 1138.991047	192.168.0.1	192.168.0.131	ICMP	134 Time-to-live exceeded (Time to live exceeded in transit)
18399 1139.478359	192.168.0.131	255.255.255.255	UDP	406 56348 → 7117 Len=364
18400 1139.478504	192.168.0.131	255.255.255.255	UDP	406 56349 → 7117 Len=364 406 56349 → 7117 Len=364
	192.168.0.131	255.255.255.255	UDP	406 56350 → 7117 Len=364
18401 1139.478638 18402 1139.478747	192.168.0.131	255.255.255.255	UDP	406 56351 → 7117 Len=364 406 56351 → 7117 Len=364
			UDP	
18403 1139.478848 18404 1140.009931	192.168.0.131	255.255.255.255	ICMP	406 56352 → 7117 Len=364
	192.168.0.131	8.8.8.8		106 Echo (ping) request id=0x0001, seq=34/8704, ttl=2 (no response found!)
18405 1140.012597	100.119.0.1	192.168.0.131	ICMP	134 Time-to-live exceeded (Time to live exceeded in transit)
18406 1140.013962 18407 1140.016249	192.168.0.131 100.119.0.1	8.8.8.8 192.168.0.131	ICMP ICMP	106 Echo (ping) request id=0x0001, seq=35/8960, ttl=2 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit)
18408 1140.016249	192.168.0.131	8.8.8.8	ICMP	106 Echo (ping) request id=0x0001, seq=36/9216, ttl=2 (no response found!)
			ICMP	
18409 1140.019704	100.119.0.1	192.168.0.131		134 Time-to-live exceeded (Time to live exceeded in transit)
18410 1140.831415	192.168.0.131	149.154.167.99	TLSv1.2	237 Application Data
18411 1140.874657	149.154.167.99	192.168.0.131	TLSv1.2	167 Application Data
18412 1140.924780	192.168.0.131	149.154.167.99	TCP	54 49899 → 443 [ACK] Seq=80283 Ack=73659 Win=251 Len=0
	192.168.0.131	8.8.8.8	ICMP	106 Echo (ping) request id=0x0001, seq=37/9472, ttl=3 (no response found!)
18414 1141.085364	192.168.0.131	31.13.72.52	TCP	123 49877 → 5222 [PSH, ACK] Seq=4054 Ack=3746 Win=508 Len=69 [TCP PDU reassembled in 19739]
18415 1141.106696	31.13.72.52	192.168.0.131	TCP	60 5222 + 49877 [ACK] Seq=3746 Ack=4123 Win=380 Len=0
18416 1141.117719		8.8.8.8	ICMP	106 Echo (ping) request id=0x0001, seq=38/9728, ttl=3 (no response found!)
	31.13.72.52	192.168.0.131	TCP	125 5222 → 49877 [PSH, ACK] Seq=3746 Ack=4123 Win=380 Len=71 [TCP PDU reassembled in 19641]
	192.168.0.131	31.13.72.52	TCP	54 49877 → 5222 [ACK] Seq=4123 Ack=3817 Win=508 Len=0
	192.168.0.131	8.8.8.8	ICMP	106 Echo (ping) request id=0x0001, seq=39/9984, ttl=3 (no response found!)
18420 1142.123807	192.168.0.131	8.8.8.8	ICMP	106 Echo (ping) request id=0x0001, seq=40/10240, ttl=4 (no response found!)
18421 1142.131716		192.168.0.131	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
18422 1142.133999	192.168.0.131	8.8.8.8	ICMP	106 Echo (ping) request id=0x0001, seq=41/10496, ttl=4 (no response found!)
18423 1142.139806	85.21.224.191	192.168.0.131	ICMP	70 Time-to-live exceeded (Time to live exceeded in transit)
18424 1142.142055	192.168.0.131	8.8.8.8	ICMP	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!)
18424 1142.142055 18425 1142.145550	192.168.0.131 85.21.224.191	8.8.8.8 192.168.0.131	ICMP ICMP	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit)
18424 1142.142055 18425 1142.145550 18426 1142.412982	192.168.0.131 85.21.224.191 HP_85:d5:6f	8.8.8.8 192.168.0.131 Broadcast	ICMP ICMP LLC	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 S P, func=RNR, N(R)=64; DSAP NULL LSAP Individual, SSAP NULL LSAP Command
18424 1142.142055 18425 1142.145550 18426 1142.412982 18427 1143.151453	192.168.0.131 85.21.224.191 HP_85:d5:6f 192.168.0.131	8.8.8.8 192.168.0.131 Broadcast 8.8.8.8	ICMP ICMP LLC ICMP	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 S P, func-RNR, N(R)=64; DSAP NULL LSAP Individual, SSAP NULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!)
18424 1142.142055 18425 1142.145550 18426 1142.412982 18427 1143.151453 18428 1143.613000	192.168.0.131 85.21.224.191 HP_85:d5:6f 192.168.0.131 192.168.0.131	8.8.8.8 192.168.0.131 Broadcast 8.8.8.8 8.8.8.8	ICMP ICMP LLC ICMP ICMP	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Iime-to-live exceeded (Time to live exceeded in transit) 60 S P, func=RNR, N(R)=64; DSAP NULL LSAP Individual, SSAP NULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!)
18424 1142.142055 18425 1142.145550 18426 1142.412982 18427 1143.151453 18428 1143.613000 18429 1143.671858	192.168.0.131 85.21.224.191 HP_85:d5:6f 192.168.0.131 192.168.0.131 192.178.241.181	8.8.8.8 192.168.0.131 Broadcast 8.8.8.8 8.8.8.8 192.168.0.131	ICMP ICMP LLC ICMP ICMP ICMP	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 S P, func=RNR, N(R)=64; DSAP NULL LSAP Individual, SSAP NULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit)
18424 1142.142055 18425 1142.145550 18426 1142.412982 18427 1143.151453 18428 1143.613000 18429 1143.671858 18430 1143.706561	192.168.0.131 85.21.224.191 HP_85:d5:6f 192.168.0.131 192.168.0.131 192.178.241.181 192.168.0.131	8.8.8.8 192.168.0.131 Broadcast 8.8.8.8 8.8.8.8 192.168.0.131 208.115.231.190	ICMP ICMP LLC ICMP ICMP ICMP ICMP	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 S P, func-RNR, N(R)=64; DSAP MULL LSAP Individual, SSAP NULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit) 55 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=1 Ack=1 Win=255 Len=1
18424 1142.142055 18425 1142.145550 18426 1142.412982 18427 1143.151453 18428 1143.671858 18439 1143.701856 18431 1143.708005	192.168.0.131 85.21.224.191 HP_85:d5:6f 192.168.0.131 192.168.0.131 192.178.241.181 192.168.0.131 208.115.231.190	8.8.8.8 192.168.0.131 Broadcast 8.8.8.8 8.8.8.8 192.168.0.131 268.115.231.190 192.168.0.131	ICMP ICMP LLC ICMP ICMP ICMP TCMP TCP	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 S P, func=RNR, N(R)=64; DSAP NULL LSAP Individual, SSAP NULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit) 55 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=1 Ack=1 Win=255 Len=1 60 [TCP Keep-Alive] 443 + 49714 [ACK] Seq=0 Ack=2 Win=501 Len=0
18424 1142.142055 18425 1142.145550 18426 1142.412982 18427 1143.151453 18428 1143.613000 18429 1143.673858 18430 1143.706561 18431 1143.708005 18432 1143.708005	192.168.0.131 85.21.224.191 HP_85:d5:6f 192.168.0.131 192.168.0.131 192.178.241.181 192.168.0.131 208.115.231.190 192.168.0.131	8.8.8.8 192.168.0.131 Broadcast 8.8.8.8 8.8.8.8 192.168.0.131 208.115.231.190 192.166.0.131 208.115.231.190	ICMP ICMP LLC ICMP ICMP ICMP TCP TCP TCP	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 S P, func-RNR, N(R)=64; DSAP NULL LSAP Individual, SSAP NULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit) 55 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=1 Ack=1 Win=255 Len=1 60 [TCP Keep-Alive] 443 + 49714 [ACK] Seq=0 Ack=2 Win=501 Len=0 54 [TCP Keep-Alive ACK] 49714 + 443 [ACK] Seq=2 Ack=1 Win=255 Len=0
18424 1142.142055 18425 1142.145559 18426 1142.412982 18427 1143.151453 18428 1143.613000 18429 1143.671858 18430 1143.706501 18431 1143.7068094 18433 1143.749822	192.168.0.131 85.21.224.191 PP 85.45.67 192.168.0.131 192.168.0.131 192.178.241.181 192.168.0.131 208.115.231.190 192.168.0.131 208.115.231.190	8.8.8.8 192.168.0.131 Broadcast 8.8.8.8 8.8.8.8 192.168.0.131 208.115.231.190 192.168.0.131 208.115.231.190 192.168.0.131	ICMP ICMP LLC ICMP ICMP ICMP ICP TCP TCP TCP TCP	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 5 P, funceRNR, N(R)=64; DSAP MULL LSAP Individual, SSAP MULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit) 55 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=1 Ack=1 Win=255 Len=1 60 [TCP Keep-Alive ACK] 49714 + 443 [ACK] Seq=0 Ack=2 Win=501 Len=0 54 [TCP Keep-Alive ACK] 49714 + 443 [ACK] Seq=2 Ack=1 Win=255 Len=0 66 [TCP Dup ACK 40813] 443 + 49714 [ACK] Seq=2 Ack=2 Win=501 Len=0 SLE=1 SRE=2
18424 1142.142055 18425 1142.145550 18426 1142.412982 18427 1143.151453 18428 1143.613000 18429 1143.671858 18430 1143.708561 18431 1143.708005 18432 1143.708094 18433 1143.788922 18434 1143.883921	192.168.0.131 85.21.224.191 HP_85:d5:d6:f61 192.168.0.131 192.168.0.131 192.178.241.181 192.168.0.131 208.115.231.190 192.168.0.131 208.115.231.190 192.168.0.131	8.8.8.8 192.168.0.131 Broadcast 8.8.8.8 8.8.8.8 192.168.0.131 208.115.231.190 192.168.0.131 208.115.231.190 192.168.0.131	ICMP ICMP LLC ICMP ICMP ICMP ICMP ICP TCP TCP TCP TCP TCP TCP TCP TCP	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 S P, func-RNR, N(R)=64; DSAP NULL LSAP Individual, SSAP NULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit) 55 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=1 Ack=1 Win=255 Len=1 60 [TCP Keep-Alive] 443 + 49714 [ACK] Seq=0 Ack=2 Win=501 Len=0 54 [TCP Weep-Alive ACK] 49714 + 443 [ACK] Seq=2 Ack=1 Win=255 Len=0 66 [TCP Dup ACK 49819] 443 + 49714 [ACK] Seq=1 Ack=2 Win=501 Len=0 SLE=1 SRE=2 237 Application Data
18424 1142.142055 18425 1142.145550 18426 1142.412982 18427 1143.151453 18428 1143.613000 18429 1143.671858 18430 1143.706561 18431 1143.706904 18432 1143.708005 18432 1143.883921 18434 1143.883921 18435 1143.925545	192.168.0.131 85.21.224.191 PP. 85.465.67 192.168.0.131 192.168.0.131 192.178.241.181 192.168.0.131 208.115.231.190 192.168.0.131 208.115.231.190 192.168.0.131	8.8.8.8 192.168.9.131 Broadcast 8.8.8.8 8.8.8.8 192.168.0.131 208.115.231.190 192.168.0.131 192.168.0.131 149.154.167.99 192.168.0.131	ICMP ICMP LLC ICMP ICMP ICMP TCP TCP TCP TCP TCP TCP TCP TCP TCP TC	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 S P, func-RNR, N(R)=64; DSAP NULL LSAP Individual, SSAP NULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit) 55 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=1 Ack=1 Win=255 Len=1 60 [TCP Keep-Alive] 443 + 49714 [ACK] Seq=0 Ack=2 Win=501 Len=0 54 [TCP Keep-Alive ACK] 49714 + 443 [ACK] Seq=2 Ack=1 Win=255 Len=0 66 [TCP Dup ACK 40#19] 443 + 49714 [ACK] Seq=2 Ack=1 Win=2501 Len=0 SLE=1 SRE=2 237 Application Data
18424 1142.142055 18425 1142.145550 18426 1142.412982 18427 1143.151453 18428 1143.613000 18429 1143.671858 18430 1143.706501 18431 1143.7068094 18432 1143.749822 18434 1143.883921 18435 1143.928545 18436 1143.976222	192.168.0.131 85.21.224.191 PP. 85.45.67 192.168.0.131 192.168.0.131 192.178.241.181 192.168.0.131 208.115.231.190 192.168.0.131 208.15.251.190 192.168.0.131 149.154.167.99	8.8.8.8 192.168.0.131 Broadcast 8.8.8.8 8.8.8.8 192.168.0.131 208.115.231.190 192.168.0.131 208.115.231.190 192.168.0.131 149.154.167.99 192.168.0.131	ICMP ICMP LLC ICMP ICMP ICMP ICP ICP ICP ICP ICP ICP ICP ICP ICP IC	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 5 P, funceRNR, N(R)=64; DSAP MULL LSAP Individual, SSAP MULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit) 55 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=1 Ack=1 Win=255 Len=1 60 [TCP Keep-Alive] 443 + 49714 [ACK] Seq=0 Ack=2 Win=501 Len=0 54 [TCP Keep-Alive ACK] 49714 + 443 [ACK] Seq=2 Ack=1 Win=255 Len=0 66 [TCP Dup ACK 40#19] 443 + 49714 [ACK] Seq=2 Ack=2 Win=501 Len=0 SLE=1 SRE=2 237 Application Data 167 Application Data 54 49899 + 443 [ACK] Seq=80466 Ack=73772 Win=255 Len=0
18424 1142.142055 18425 1142.143559 18426 1142.412982 18427 1143.151453 18428 1143.613000 18429 1143.671858 18430 1143.708095 18431 1143.708095 18432 1143.708094 18433 1143.708094 18435 1143.928545 18436 1143.928545 18436 1143.928545 18436 1143.976222 18437 1144.092552	192.168.0.131 85.21.224.191 IMP 85:46:761 192.168.0.131 192.168.0.131 192.178.241.181 192.168.0.131 208.115.231.190 192.168.0.131 208.115.231.190 192.168.0.131 149.154.167.99 192.168.0.131 192.168.0.131	8.8.8.8 192.168.0.131 Broadcast 8.8.8.8 8.8.8.8 192.168.0.131 208.115.231.190 192.168.0.131 208.115.231.190 192.168.0.131 149.154.167.99 192.168.0.131 149.154.167.99 149.154.167.99	ICMP ICMP LLC ICMP ICMP ICMP TCP TCP TCP TCP TLSV1.2 TLSV1.2 TLSV1.2 TLSV1.2	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 S P, func-RNR, N(R)=64; DSAP MULL LSAP Individual, SSAP MULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit) 55 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=0 Ack=1 Win=255 Len=1 60 [TCP Keep-Alive] 443 + 49714 [ACK] Seq=0 Ack=2 Win=501 Len=0 54 [TCP Keep-Alive ACK] 49714 + 443 [ACK] Seq=2 Ack=1 Win=255 Len=0 66 [TCP Dup ACK 40819] 443 + 49714 [ACK] Seq=1 Ack=2 Win=501 Len=0 SLE=1 SRE=2 237 Application Data 167 Application Data 168 [TCP Seq=80466 Ack=73772 Win=255 Len=0 253 Application Data
18424 1142.142055 18425 1142.145550 18425 1142.145550 18426 1142.412982 18427 1143.151453 18428 1143.613000 18429 1143.671858 18439 1143.708005 18432 1143.7080094 18432 1143.749822 18434 1143.883921 18435 1143.926545 18436 1143.976222 18437 1144.092552 18438 1144.105024	192.168.0.131 85.21.224.191 PP. 85.465.67 192.168.0.131 192.178.241.181 192.178.241.181 192.168.0.131 208.115.231.190 192.168.0.131 208.115.231.190 192.168.0.131 149.154.167.99 192.168.0.131 192.168.0.131 192.168.0.131	8.8.8.8 192.168.9.131 Broadcast 8.8.8.8 8.8.8.8 192.168.0.131 208.115.231.190 192.168.0.131 149.154.167.99 192.168.0.131 149.154.167.99 192.168.0.131 149.154.167.99 8.8.8.8	ICMP ICMP LLC ICMP ICMP ICMP TCP TCP TCP TCP TCP TCP TCP TLSv1.2 TLSv1.2 TLSv1.2 TCP TLSv1.2	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 S P, func=RNR, N(R)=64; DSAP NULL LSAP Individual, SSAP NULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit) 55 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=1 Ack=1 Win=255 Len=1 60 [TCP Keep-Alive] 443 + 49714 [ACK] Seq=0 Ack=2 Win=501 Len=0 54 [TCP Keep-Alive ACK] 49714 + 443 [ACK] Seq=2 Ack=2 Win=501 Len=0 66 [TCP Dup ACK 40#19] 443 + 49714 [ACK] Seq=1 Ack=2 Win=501 Len=0 SLE=1 SRE=2 237 Application Data 167 Application Data 168 Echo (ping) request id=0x0001, seq=45/11520, ttl=5 (no response found!)
18424 1142.142055 18425 1142.145550 18426 1142.412982 18427 1143.151453 18428 1143.613000 18429 1143.671858 18430 1143.7065061 18431 1143.7068094 18432 1143.7068094 18433 1143.26894 18436 1143.976222 18435 1144.992552 18438 1144.105024 18439 1144.152341	192.168.0.131 85.21.224.191 PP. 85.45.67 192.168.0.131 192.168.0.131 192.178.241.181 192.168.0.131 208.115.231.190 192.168.0.131 208.115.231.190 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131	8.8.8.8 192.168.0.131 Broadcast 8.8.8.8 8.8.8.8 192.168.0.131 208.115.231.190 192.168.0.131 208.115.231.190 192.168.0.131 149.154.167.99 192.168.0.131 149.154.167.99 149.154.167.99 149.154.167.99 8.8.8.8	ICMP ICMP LLC ICMP ICMP ICMP TCP TCP TCP TCP TLSV1.2 TLSV1.2 TCP TLSV1.2 ICMP TLSV1.2 ICMP TLSV1.2	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 78 Time-to-live exceeded (Time to live exceeded in transit) 60 5 P, funceRNR, N(R)=64; DSAP MULL LSAP Individual, SSAP MULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit) 55 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=1 Ack=1 Win=255 Len=1 60 [TCP Keep-Alive] 443 + 49714 [ACK] Seq=0 Ack=2 Win=501 Len=0 54 [TCP Keep-Alive ACK] 49714 + 443 [ACK] Seq=2 Ack=1 Win=255 Len=0 66 [TCP Dup ACK 40#19] 443 + 49714 [ACK] Seq=2 Ack=1 Win=501 Len=0 SLE=1 SRE=2 237 Application Data 167 Application Data 168 4 9889 + 443 [ACK] Seq=80466 Ack=73772 Win=255 Len=0 253 Application Data 168 Echo (ping) request id=0x0001, seq=45/11520, ttl=5 (no response found!) 585 Application Data
18424 1142.142055 18425 1142.145550 18426 1142,412982 18427 1143.151453 18428 1143.613000 18429 1143.671858 18438 1143.708005 18431 1143.708005 18433 1143.708094 18433 1143.708094 18435 1143.928545 18436 1143.928545 18436 1144.92552 18438 1144.105024 18439 1144.152341 18440 1144.198192	192.168.0.131 85.21.224.191 MP_65165.6F 192.168.0.131 192.168.0.131 192.178.241.181 192.168.0.131 208.115.231.190 192.168.0.131 208.115.231.190 192.168.0.131 149.154.167.99 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131	8.8.8.8 192.168.0.131 Broadcast 8.8.8.8 8.8.8.8 192.168.0.131 208.115.231.190 192.168.0.131 208.115.231.190 192.168.0.131 149.154.167.99 192.168.0.131 149.154.167.99 8.8.8.8	ICMP ICMP LLC ICMP ICMP ICMP ICMP TCP TCP TCP TCP TCP TCP TLSv1.2 TLSv1.2 TCP TLSv1.2 ICMP TLSv1.2 ICMP TLSv1.2	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 S P, func-RNR, N(R)=64; DSAP NULL LSAP Individual, SSAP NULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit) 55 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=1 Ack=1 Win=255 Len=1 66 [TCP Keep-Alive] 443 + 49714 [ACK] Seq=2 Ack=2 Win=501 Len=0 54 [TCP Keep-Alive ACK] 49714 + 443 [ACK] Seq=2 Ack=2 Win=501 Len=0 66 [TCP Dup ACK 40#19] 443 + 49714 [ACK] Seq=2 Ack=2 Win=501 Len=0 SLE=1 SRE=2 237 Application Data 164 49899 + 443 [ACK] Seq=80466 Ack=73772 Win=255 Len=0 253 Application Data 166 Echo (ping) request id=0x0001, seq=45/11520, ttl=5 (no response found!) 585 Application Data 54 49899 + 443 [ACK] Seq=80665 Ack=74303 Win=253 Len=0
18424 1142.142055 18425 1142.142550 18425 1142.145550 18426 1142.412982 18427 1143.151453 18428 1143.613000 18429 1143.671858 18439 1143.708005 18432 1143.7080094 18432 1143.708094 18433 1143.749822 18434 1143.883921 18435 1143.976222 18438 1144.092552 18438 1144.152341 18449 1144.152341 18449 1144.152819 18441 1144.618162	192.168.0.131 85.21.224.191 HP 85.d516F 192.168.0.131 192.168.0.131 192.168.0.131 208.115.231.190 192.168.0.131 208.115.231.190 192.168.0.131 128.115.231.190 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131	8.8.8.8 192.168.0.131 Broadcast 8.8.8.8 8.8.8.8 192.168.0.131 208.115.231.190 192.168.0.131 149.154.167.99 192.168.0.131 149.154.167.99 149.154.167.99 149.154.167.99 8.8.8.8 192.168.0.131 149.154.167.99 8.8.8.8	ICMP ICMP ICMP ILCMP ICMP ICMP ICMP ICCP ICCP ICCP ICCP I	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 S P, func-RNR, N(R)=64; DSAP NULL LSAP Individual, SSAP NULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit) 55 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=0 Ack=1 Win=255 Len=1 60 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=0 Ack=2 Win=501 Len=0 54 [TCP Keep-Alive ACK] 49714 + 443 [ACK] Seq=0 Ack=2 Win=501 Len=0 66 [TCP Dup ACK 40#19] 443 + 49714 [ACK] Seq=1 Ack=2 Win=501 Len=0 SLE=1 SRE=2 237 Application Data 167 Application Data 164 A9899 + 443 [ACK] Seq=80466 Ack=73772 Win=255 Len=0 253 Application Data 166 Echo (ping) request id=0x0001, seq=45/11520, ttl=5 (no response found!) 585 Application Data 54 49899 + 443 [ACK] Seq=80665 Ack=74303 Win=253 Len=0 106 Echo (ping) request id=0x0001, seq=46/11776, ttl=6 (no response found!)
18424 1142.142055 18425 1142.145550 18426 1142.412982 18427 1143.151453 18428 1143.613000 18429 1143.671858 18430 1143.706501 18431 1143.7068094 18433 1143.7068094 18433 1143.749822 18434 1143.883921 18435 1144.992552 18438 1144.105024 18439 1144.152341 18440 1144.618162 18442 1144.618162	192.168.0.131 85.21.224.191 PR 85.45.167 192.168.0.131 192.168.0.131 192.168.0.131 208.115.231.190 192.168.0.131 208.115.251.190 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131	8.8.8.8 192.168.0.131 Broadcast 8.8.8.8 8.8.8.8 192.168.0.131 208.115.231.190 192.168.0.131 208.115.231.190 192.168.0.131 149.154.167.99 192.168.0.131 149.154.167.99 8.8.8.8 192.168.0.131 149.154.167.99 8.8.8.8 192.168.0.131 149.154.167.99 8.8.8.8	ICMP ICMP LLC ICMP ICMP ICMP ICP TCP TCP TCP TLSV1.2 TLSV1.2 TCP TLSV1.2 ICMP TLSV1.2 ICMP ILSV1.2 ICMP ILSV1.2 ICMP	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 78 Time-to-live exceeded (Time to live exceeded in transit) 60 5 P, funceRNR, N(R)=64; DSAP MULL LSAP Individual, SSAP MULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit) 55 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=1 Ack=1 Win=255 Len=1 60 [TCP Keep-Alive] 443 + 49714 [ACK] Seq=0 Ack=2 Win=501 Len=0 54 [TCP Keep-Alive ACK] 49714 + 443 [ACK] Seq=2 Ack=1 Win=255 Len=0 66 [TCP Dup ACK 40#19] 443 + 49714 [ACK] Seq=1 Ack=2 Win=501 Len=0 SLE=1 SRE=2 237 Application Data 167 Application Data 168 Echo (ping) request id=0x0001, seq=45/11520, ttl=5 (no response found!) 585 Application Data 54 49899 + 443 [ACK] Seq=80665 Ack=74303 Win=253 Len=0 106 Echo (ping) request id=0x0001, seq=46/11776, ttl=6 (no response found!) 78 Time-to-live exceeded (Time to live exceeded in transit)
18424 1142.142055 18425 1142.142550 18425 1142.145550 18426 1142.412982 18427 1143.151453 18428 1143.613000 18429 1143.708561 18431 1143.708561 18432 1143.70805 18432 1143.798022 18434 1143.883921 18435 1143.978222 18437 1144.09252 18437 1144.09252 18437 1144.09252 18438 1144.152341 18440 1144.1638162 18441 1144.618162 18441 1144.621801 18443 1144.621801	192.168.0.131 35.21.224.191 HP_85.65167 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 208.115.231.190 192.168.0.131 149.154.167.99 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131	8.8.8.8 192.168.9.131 Broadcast 8.8.8.8 192.168.0.131 208.115.231.190 192.168.0.131 208.115.231.190 192.168.0.131 149.154.167.99 149.154.167.99 8.8.8.8 192.168.0.131 149.154.167.99 8.8.8.8 192.168.0.131 149.154.167.99 8.8.8.8	ICMP ICMP ICMP ICMP ICMP ICMP ICP ICP ICP ICP ICP ICP ICP ICSVI.2 ILSVI.2 ICMP ILSVI.2 ICMP ILSVI.2 ICMP ILSVI.2 ICMP ILSVI.1	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 S P, func=RNR, N(R)=64; DSAP NULL LSAP Individual, SSAP NULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit) 55 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=1 Ack=1 Win=255 Len=1 60 [TCP Keep-Alive] 443 + 49714 [ACK] Seq=0 Ack=2 Win=501 Len=0 54 [TCP Keep-Alive ACK] 49714 + 443 [ACK] Seq=2 Ack=1 Win=255 Len=0 66 [TCP Dup ACK 40#19] 443 + 49714 [ACK] Seq=1 Ack=2 Win=501 Len=0 SLE=1 SRE=2 237 Application Data 167 Application Data 168 Echo (ping) request id=0x0001, seq=45/11520, ttl=5 (no response found!) 168 Echo (ping) request id=0x0001, seq=45/1176, ttl=6 (no response found!) 170 Time-to-live exceeded (Time to live exceeded in transit) 160 Echo (ping) request id=0x0001, seq=447/12032, ttl=6 (no response found!)
18424 1142.142055 18425 1142.142550 18425 1142.145550 18426 1142.412982 18427 1143.151453 18428 1143.613000 18429 1143.671858 18439 1143.708005 18432 1143.708005 18432 1143.708094 18433 1143.749822 18434 1143.883921 18435 1143.976222 18438 1144.092552 18438 1144.152341 18449 1144.152341 18449 1144.621801 18442 1144.621801 18442 1144.623869	192.168.0.131 85.21.224.191 HP 85.d5167 192.168.0.131 192.178.241.146	8.8.8.8 192.168.0.131 Broadcast 8.8.8.8 8.8.8.8 192.168.0.131 208.115.231.190 192.168.0.131 149.154.167.99 192.168.0.131 149.154.167.99 149.154.167.99 8.8.8.8 192.168.0.131 149.154.167.99 8.8.8.8 192.168.0.131 149.154.167.99 8.8.8.8 192.168.0.131 149.154.167.99 8.8.8.8	ICMP ICMP ICMP ILCMP ICMP ICMP ICMP ICCP ICCP ICSV1.2 ILSV1.2 ICCP ILSV1.2 ICMP ILSV1.2 ICMP ILSV1.2 ICMP ILSV1.1 ICMP ICMP ICMP ICMP ICMP	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 S P, func=RNR, N(R)=64; DSAP NULL LSAP Individual, SSAP NULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit) 55 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=1 Ack=1 Win=255 Len=1 60 [TCP Keep-Alive] 443 + 49714 [ACK] Seq=0 Ack=2 Win=501 Len=0 54 [TCP Keep-Alive ACK] 49714 + 443 [ACK] Seq=2 Ack=1 Win=255 Len=0 66 [TCP Dup ACK 40#19] 443 + 49714 [ACK] Seq=2 Ack=2 Win=501 Len=0 SLE=1 SRE=2 237 Application Data 167 Application Data 54 49899 + 443 [ACK] Seq=80466 Ack=73772 Win=255 Len=0 253 Application Data 166 Echo (ping) request id=0x0001, seq=45/11520, ttl=5 (no response found!) 585 Application Data 54 49899 + 443 [ACK] Seq=80665 Ack=74303 Win=253 Len=0 106 Echo (ping) request id=0x0001, seq=46/11776, ttl=6 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 106 Echo (ping) request id=0x0001, seq=46/11073, ttl=6 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit)
18424 1142.142055 18425 1142.142550 18425 1142.145550 18426 1142.412982 18427 1143.151453 18428 1143.613000 18429 1143.671858 18430 1143.706501 18431 1143.7068094 18433 1143.7068094 18433 1143.7068094 18433 1143.926545 18436 1143.976222 18437 1144.092552 18438 1144.165024 18439 1144.152341 18440 1144.198192 18441 1144.618162 18442 1144.623613 18443 1144.62371 18444 1144.62371	192.168.0.131 85.21.224.191 HP 85.45.67 192.168.0.131 192.168.0.131 192.168.0.131 208.115.231.190 192.168.0.131 208.115.251.190 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.178.241.146 192.178.241.146	8.8.8.8 192.168.0.131 Broadcast 8.8.8.8 8.8.8.8 192.168.0.131 208.115.231.190 192.168.0.131 194.154.167.99 192.168.0.131 149.154.167.99 149.154.167.99 149.154.167.99 8.8.8.8 192.168.0.131 149.154.167.99 8.8.8.8 192.168.0.131 149.154.167.98 8.8.8.8 192.168.0.131 8.8.8.8	ICMP ICMP ICMP ICMP ICMP ICMP ICP ICP ICP ICP ICP ILSV1.2 ILSV1.2 ICP ILSV1.2 ICMP ILSV1.2 ICMP ILSV1.1 ICMP ICMP ICMP ICMP ICMP ICMP ICMP	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 S P, funceRNR, N(R)=64; DSAP NULL LSAP Individual, SSAP NULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit) 55 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=1 Ack=1 Win=255 Len=1 60 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=0 Ack=2 Win=501 Len=0 54 [TCP Keep-Alive ACK] 49714 + 443 [ACK] Seq=0 Ack=2 Win=501 Len=0 66 [TCP Dup ACK 40#19] 443 + 49714 [ACK] Seq=1 Ack=2 Win=501 Len=0 SLE=1 SRE=2 237 Application Data 167 Application Data 54 49899 + 443 [ACK] Seq=80466 Ack=73772 Win=255 Len=0 253 Application Data 166 Echo (ping) request id=0x0001, seq=45/11520, ttl=5 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 106 Echo (ping) request id=0x0001, seq=46/11776, ttl=6 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 106 Echo (ping) request id=0x0001, seq=47/12032, ttl=6 (no response found!)
18424 1142.142055 18425 1142.142550 18425 1142.145550 18426 1142.412982 18427 1143.151453 18428 1143.613000 18429 1143.671858 18439 1143.708505 18432 1143.708005 18432 1143.708004 18432 1143.798202 18434 1143.883921 18435 1143.976222 18437 1144.092552 18438 1144.152341 18440 1144.152341 18440 1144.618162 18442 1144.621801 18443 1144.622371 18444 1144.62371 18445 1144.628771	192.168.0.131 35.21.224.191 HP 85.65167 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 149.154.167.99 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131	8.8.8.8 192.163.9.131 Broadcast 8.8.8.8 8.8.8.8 192.163.0.131 208.115.231.190 192.168.0.131 208.115.231.190 192.168.0.131 149.154.167.99 149.154.167.99 8.8.8.8 192.168.0.131 149.154.167.99 8.8.8.8 192.168.0.131 8.8.8.8 192.168.0.131 8.8.8.8 192.168.0.131 8.8.8.8	ICMP ICMP ICMP ICMP ICMP ICMP ICMP ICP ICP ICP ICP ICP ICP ICSVI.2 ILSVI.2 ICSVI.2 ICMP ILSVI.2 ICMP ICMP ICMP ICMP ICMP ICMP ICMP ICMP	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 S P, func-RNR, N(R)=64; DSAP NULL LSAP Individual, SSAP NULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 107 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 108 Echo (ping) request id=0x0001, seq=4 Ack=1 Win=255 Len=1 109 Echo (Ping) request id=0x0001, seq=46 Ack=2 Win=501 Len=0 109 Echo (ping) request id=0x0001, seq=45/11520, ttl=5 (no response found!) 109 Echo (ping) request id=0x0001, seq=45/11520, ttl=5 (no response found!) 100 Echo (ping) request id=0x0001, seq=46/11776, ttl=6 (no response found!) 100 Echo (ping) request id=0x0001, seq=46/11776, ttl=6 (no response found!) 101 Time-to-live exceeded (Time to live exceeded in transit) 102 Echo (ping) request id=0x0001, seq=47/12032, ttl=6 (no response found!) 109 Echo (ping) request id=0x0001, seq=47/12032, ttl=6 (no response found!) 109 Echo (ping) request id=0x0001, seq=48/12288, ttl=6 (no response found!) 100 Echo (ping) request id=0x0001, seq=48/12288, ttl=6 (no response found!) 100 Echo (ping) request id=0x0001, seq=48/12288, ttl=6 (no response found!) 100 Echo (ping) request id=0x0001, seq=48/12288, ttl=6 (no response found!) 100 Echo (ping) request id=0x0001, seq=48/12288, ttl=6 (no response found!) 100 Echo (ping) request id=0x0001, seq=48/12288, ttl=6 (no response found!) 100 Echo (ping) request id=0x0001, seq=48/12288, ttl=6 (no response found!)
18424 1142.142055 18425 1142.142550 18425 1142.145550 18426 1142.412982 18427 1143.151453 18428 1143.613000 18429 1143.671858 18430 1143.706501 18431 1143.7068094 18433 1143.7068094 18433 1143.7068094 18433 1143.926545 18436 1143.976222 18437 1144.092552 18438 1144.165024 18439 1144.152341 18440 1144.198192 18441 1144.618162 18442 1144.623613 18443 1144.62371 18444 1144.62371	192.168.0.131 85.21.224.191 HP 85.d5167 192.168.0.131 192.168.0.131 192.178.241.181 192.168.0.131 208.115.231.190 192.168.0.131 208.115.231.190 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.168.0.131 192.178.241.146 192.168.0.131 192.178.241.146 192.168.0.131 192.178.241.146	8.8.8.8 192.168.0.131 Broadcast 8.8.8.8 8.8.8.8 192.168.0.131 208.115.231.190 192.168.0.131 194.154.167.99 192.168.0.131 149.154.167.99 149.154.167.99 149.154.167.99 8.8.8.8 192.168.0.131 149.154.167.99 8.8.8.8 192.168.0.131 149.154.167.98 8.8.8.8 192.168.0.131 8.8.8.8	ICMP ICMP ICMP ICMP ICMP ICMP ICP ICP ICP ICP ICP ILSV1.2 ILSV1.2 ICP ILSV1.2 ICMP ILSV1.2 ICMP ILSV1.1 ICMP ICMP ICMP ICMP ICMP ICMP ICMP	106 Echo (ping) request id=0x0001, seq=42/10752, ttl=4 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 60 S P, funceRNR, N(R)=64; DSAP NULL LSAP Individual, SSAP NULL LSAP Command 106 Echo (ping) request id=0x0001, seq=43/11008, ttl=5 (no response found!) 106 Echo (ping) request id=0x0001, seq=44/11264, ttl=5 (no response found!) 134 Time-to-live exceeded (Time to live exceeded in transit) 55 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=1 Ack=1 Win=255 Len=1 60 [TCP Keep-Alive] 49714 + 443 [ACK] Seq=0 Ack=2 Win=501 Len=0 54 [TCP Keep-Alive ACK] 49714 + 443 [ACK] Seq=0 Ack=2 Win=501 Len=0 66 [TCP Dup ACK 40#19] 443 + 49714 [ACK] Seq=1 Ack=2 Win=501 Len=0 SLE=1 SRE=2 237 Application Data 167 Application Data 54 49899 + 443 [ACK] Seq=80466 Ack=73772 Win=255 Len=0 253 Application Data 166 Echo (ping) request id=0x0001, seq=45/11520, ttl=5 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 106 Echo (ping) request id=0x0001, seq=46/11776, ttl=6 (no response found!) 70 Time-to-live exceeded (Time to live exceeded in transit) 106 Echo (ping) request id=0x0001, seq=47/12032, ttl=6 (no response found!)

```
C:\Users\Admin>tracert -d -w 1 8.8.8.8
Трассировка маршрута к 8.8.8.8 с максимальным числом прыжков 30
 1
                          <1 MC
                                 192.168.0.1
       <1 MC
                <1 MC
 2
        2 ms
                 2 ms
                                 100.119.0.1
                           2 ms
  3
                           *
                                 Превышен интервал ожидания для запроса
  4
        8 ms
                 6 ms
                           3 ms
                                 85.21.224.191
  5
                                 Превышен интервал ожидания для запроса
  6
                                 192.178.241.146
        3 ms
                 3 ms
                           3 ms
 7
                22 ms
                          22 ms
                                 209.85.249.158
       22 ms
                                 216.239.43.20
 8
                22 ms
                          22 ms
 9
       22 ms
                22 ms
                          21 ms
                                 142.250.56.13
10
        *
                 *
                                 Превышен интервал ожидания для запроса
11
                                 Превышен интервал ожидания для запроса
                           *
12
                           *
                                 Превышен интервал ожидания для запроса
13
                                 Превышен интервал ожидания для запроса
                           *
14
        *
                           *
                                 Превышен интервал ожидания для запроса
15
                                 Превышен интервал ожидания для запроса
        *
                 *
16
                           *
                                 Превышен интервал ожидания для запроса
        *
                 *
17
                                 Превышен интервал ожидания для запроса
        *
                 *
18
        *
                 *
                           *
                                 Превышен интервал ожидания для запроса
19
       22 ms
                22 ms
                          22 ms
                                 8.8.8.8
Трассировка завершена.
C:\Users\Admin>
```

3. Исследовать ключ -r команды ping. Например: ping -r 9 yandex.ru;

/r <count> Указывает **параметр "Маршрут** записи" в заголовке IP-адреса для записи пути, принятого сообщением запроса эхо и соответствующим сообщением ответа на эхо (доступно только

в IPv4). Каждый прыжк в пути использует запись в параметре **"Маршрут** записи". Если это возможно, укажите *число*, равное или больше количества прыжков между источником и назначением. *Число* должно быть не менее 1 и не более 9.

4. ***Построить полный маршрут до какого-либо узла в Интернете;

C:\Users\Admin>tracert -h 45 8.8.8.8 Трассировка маршрута к dns.google [8.8.8.8] с максимальным числом прыжков 45: 1 <1 MC <1 MC <1 MC 192.168.0.1 2 3 ms 2 ms 2 ms 100.119.0.1 3 Превышен интервал ожидания для запроса * * * 85.21.224.191 4 2 ms 2 ms 2 ms 5 * * Превышен интервал ожидания для запроса 6 3 ms 3 ms 3 ms 192.178.241.146 7 23 ms 22 ms 22 ms 209.85.249.158 8 19 ms 18 ms 37 ms 216.239.43.20 9 22 ms 21 ms 21 ms 142.250.56.13 10 * * * Превышен интервал ожидания для запроса 11 Превышен интервал ожидания для запроса * * 12 * * * Превышен интервал ожидания для запроса 13 * * Превышен интервал ожидания для запроса 14 * Превышен интервал ожидания для запроса 15 * Превышен интервал ожидания для запроса 16 * Превышен интервал ожидания для запроса 17 Превышен интервал ожидания для запроса * 18 * Превышен интервал ожидания для запроса 19 21 ms 21 ms dns.google [8.8.8.8] 21 ms Трассировка завершена.

IP адреса которые определились, разве они не являются маршрутом?