SUPPORT & MAINTENANCE

INTERIUS™

SOFTWARE SUITE

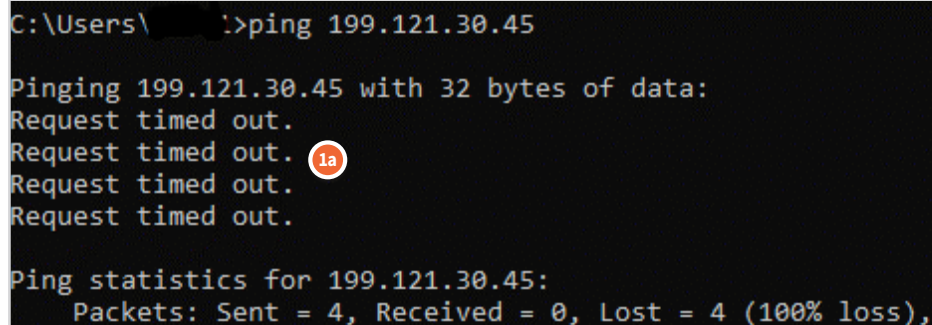**SURGERE®**

TABLE OF CONTENTS

Portal Communication: Portals send out a signal every minute to Sensorware which is forwarded to Surgere. This is to confirm that the portal is powered and connected to the network. If no signal is received a notice is sent to Surgere Technical Support. The team confirms that heartbeats have not been received and the portal is not communicating to Surgere. If the issue is determined to be on the client side of the process then the onsite point of contact is emailed. The alert is included, see example:

Client Name: Name   **IP Address:** 1.2.3.4   **Location:** Albany -Albany Production   **Door#:** Port 4   **Time Stamp:** 10/26/2018 11:11:22 AM

See next page for definitions.

CHECKING THE PORTAL STATUS FROM THE SENSORWARE SERVER:

1   From the Sensorware server open a Command Prompt and ping the reader.
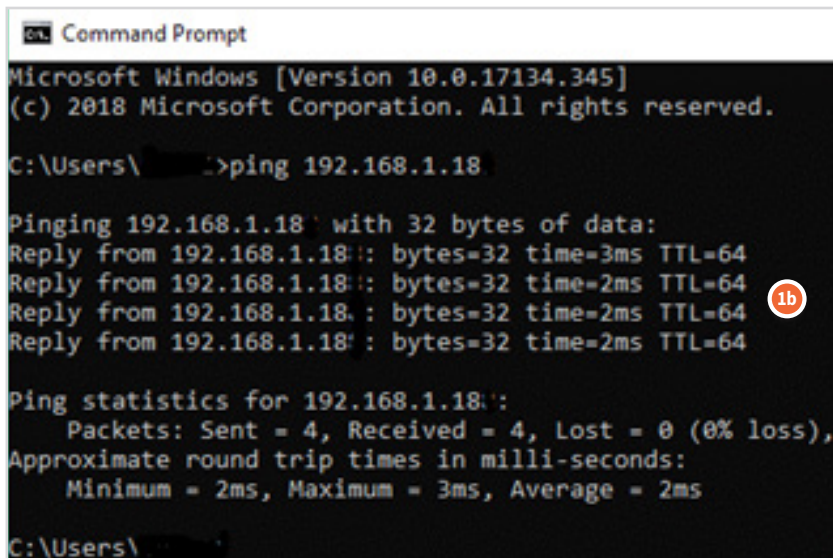
```
C:\Users\        >ping 199.121.30.45

Pinging 199.121.30.45 with 32 bytes of data:
Request timed out.
Request timed out.        1a
Request timed out.
Request timed out.

Ping statistics for 199.121.30.45:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

1a   If reader is unreachable you will receive a Request timed out response. Proceed to Step 5.

```
Command Prompt
Microsoft Windows [Version 10.0.17134.345]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\       >ping 192.168.1.18

Pinging 192.168.1.18 with 32 bytes of data:
Reply from 192.168.1.18: bytes=32 time=3ms TTL=64
Reply from 192.168.1.18: bytes=32 time=2ms TTL=64
Reply from 192.168.1.18: bytes=32 time=2ms TTL=64        1b
Reply from 192.168.1.18: bytes=32 time=2ms TTL=64

Ping statistics for 192.168.1.18:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 3ms, Average = 2ms

C:\Users\
```

1b   If reader is reachable you will receive a reply. Proceed to Step 2.

2   Open a web browser on the Sensorware server and navigate to the reader IP: i.e. 1.2.3.4

READER

Reader Name	SpeedwayR-11-FB-9F
Uptime	0 Days, 2 hours, 50 minutes, 38 seconds
System Time	Tue Nov 19 18:47:40 UTC 2019
LLRP Status	Connected: 127.0.0.1 **3**
RFID Status	Active

3 The web access page of the reader shows the LLRP Status under the Reader Information section. The LLRP Status should show Connected: Sensorware Server IP. If it shows Connected proceed to Step 4. If it is disconnected proceed to Step 5.

READER REBOOT

Reboot Status	Ready To Reboot
Press to Reboot	Reboot ⟳ **4**

4 If reader LLRP Status shows Connected but Sensorware isn't receiving information a reader reboot may fix this issue. Under the Reader Reboot section select Reboot. After reader comes back up review LLRP Status and confirm Connected.

5 Please provide results to Surgere Technical Support.

DEFINITIONS
- **Portal –** tower(s) used to read RFID tags; typically set up at dock doors, conveyors, or choke points as a one or two tower configuration
- **Reader –** the unit within the tower which collects and forwards the RFID reads to Sensorware
- **Sensorware –** software used to communicate RFID reads to Surgere; resides on the server

Portal Communication: Portals send out a signal every minute to Sensorware which is forwarded to Surgere. This is to confirm that the portal is powered and connected to the network. The Surgere Team confirms that heartbeats have not been received and the portal is not communicating to Surgere. If the issue is not resolved by completing the *Surgere Sensorware Alert Troubleshooting* steps then the portal needs physically checked.

*See next page for definitions.

CHECKING THE STACKLIGHT

1   The red light indicates the reader has power.

2   The green light indicates the reader has power and is attempting to read tags.

3   If the red stack light is off, or if there is no stack light, check the back of the reader:

3a   Verify all connections are secure.

3b   Check if the power light is on, located on top next to the Antennas. If this light is not on the reader does not have power.

CHECKING THE PoE CABLE

1   Check for faulty cable:

1a   Connect the ethernet cable to a working reader and see if power is transferred.

1b   If the working reader still receives power the ethernet cable is not the point of failure.

2   Check the PoE cable length:

2a   Confirm the ethernet cable run from the PoE switch to the reader does not exceed 330 feet.

CHECKING THE PoE SWITCH

1   Check PoE switch-port:

    1a   Plug offline reader into a known working PoE switch-port.

    1b   If the offline reader receives power the readers original switch-port is the point of failure.

    1c   Client's internal network team must be consulted at this point

2   Check PoE switch-port power

    2a   Verify the switch supports the total PoE devices connected

Example switch command output:

```
Switch(config)# show power-over-ethernet brief

Status and Counters - Port Power Status

  System Power Status     : No redundancy
  PoE Power Status        : No redundancy

  Available: 600 W  Used: 9 W  Remaining: 591 W

  Module A Power
  Available: 408 W  Used: 9 W  Remaining: 399 W

  PoE    | Power    Power     Alloc Alloc  Actual
  Port   | Enable   Priority  By    Power  Power
  ------ + -------  --------- ----- -----  -----
  A1     | Yes      low       usage 17 W   0.0 W
  A2     | Yes      low       usage 17 W   0.0 W
  A3     | Yes      low       usage 17 W   0.0 W
  A4     | Yes      low       usage 17 W   0.0 W
  A5     | Yes      low       usage 17 W   0.0 W
  A6     | Yes      low       usage 17 W   8.4 W
```

    2b   Verify the PoE switch-port the reader is connected to is configured to support the maximum current draw compliant with the PoE 802.3af standard, 15.4W*

    Impinj readers draw a maximum power of 11.5W. If the switch-port power level is too low the reader will begin rebooting or completely power down.

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SENSORWARE – LOG FILES

1 Navigate to the Sensorware folder of the instance the logs are needed for:

- Surgere/Log/I01
- Surgere/Log/I02
- Surgere/Log/I03

2 Sensorware Log files, copy and send the following files:

- Queue.YYYYMMDD.log
- Service.YYYYMMDD.log

Name	Date modified	Type
Queue.20211025.log	10/25/2021 12:22 PM	Text Document
Service.20211025.log	10/25/2021 12:19 PM	Text Document

(C:) › Surgere › Log › I01

Search I01

3 Sensorware Reader Log files, copy and send the following folder:

- Reader IP Address

(C:) › Surgere › Log › I01

Search I01

Name	Date modified	Type
Queue.20211025.log	10/25/2021 12:22 PM	Text Document
Service.20211025.log	10/25/2021 12:19 PM	Text Document
ClientAPIRequestLog.20211025.log	10/25/2021 12:12 PM	Text Document
GlobalDebug.20211025.log	10/25/2021 12:12 PM	Text Document
SentFailed.20211025.log	10/25/2021 12:12 PM	Text Document
SettingsLog.20211025.log	10/25/2021 12:12 PM	Text Document
172.16.108.3	10/25/2021 12:12 PM	File folder
10.173.89.156	9/9/2021 9:43 AM	File folder
10.203.162.205	8/24/2021 4:59 PM	File folder

PROCESS SCOPE

The purpose of this document is to define the procedure for updating the software version on a RFID reader.

PROCESS STEPS

1 Navigate to the reader webpage via preferred browser (i.e. Chrome, Edge, etc)

Sign in

http:// READER IP

Your connection to this site is not private

Username

Password

Sign in   Cancel

2 Log into reader using default credentials

Username: *root*
Password: *impinj*

3 Current version shows under DETAILS:

DETAILS

Model Name	Speedway R420
Regulatory Region	FCC Part 15.247
MAC Address	00:16:25:11:47:7B
Software Version	6.2.1.240 (Build e06c7d3b556)
Hardware Version	250-004-000
Serial Number	370-15-09-0094

4 Under Reader Upgrade:

4a Select Browse

READER UPGRADE

Upgrade Status	Ready
Last Operation Status	N/A
Select Upgrade File	Browse... No file selected.
Upgrade Now	Upgrade [↑]

4b Navigate to octane-x.x.x.xxx.upg file and select Open

File name: octane-6.4.1.240.upg ⌄   All Files (*.*)

Open

4c Select Upgrade

READER UPGRADE

Upgrade Status	Ready
Last Operation Status	N/A
Select Upgrade File	Browse... octane-6.4.1.240.upg
Upgrade Now	Upgrade [↑]

4d Last Operation Status will change to Uploading File

READER UPGRADE

Upgrade Status	Ready
Last Operation Status	Uploading File
Select Upgrade File	Browse... octane-6.4.1.240.upg
Upgrade Now	Upgrade [↑]

4e Upgrade Status will change to ProcessingImageFile

READER UPGRADE

Upgrade Status	ProcessingImageFile
Last Operation Status	N/A
RefreshTimer (secs)	4

4f Once software install is complete Upgrade Status changes to Ready and Last Operation Status changes to Waiting for manual reboot

READER UPGRADE

Upgrade Status	Ready
Last Operation Status	Waiting for manual reboot
Select Upgrade File	Browse... No file selected.
Upgrade Now	Upgrade [↑]

5 Under Reader Reboot select Reboot

READER REBOOT

Reboot Status	Ready To Reboot
Press to Reboot	Reboot ↻

6 Popup opens requesting confirmation to Continue, select OK

READER IP says

Continue with Reboot

OK   Cancel

7 Reader Reboot Status updates

READER REBOOT

Reboot Status	Rebooting in progress
RefreshTimer (secs)	53

8 Updated Software Version shows under Details

DETAILS

Model Name	Speedway R420
Regulatory Region	FCC Part 15.247
MAC Address	00:16:25:11:47:7B
Software Version	6.4.1.240 (Build 6d422edf3de)
Hardware Version	250-004-000
Serial Number	370-15-09-0094

Required Software: SSH/Telnet Client

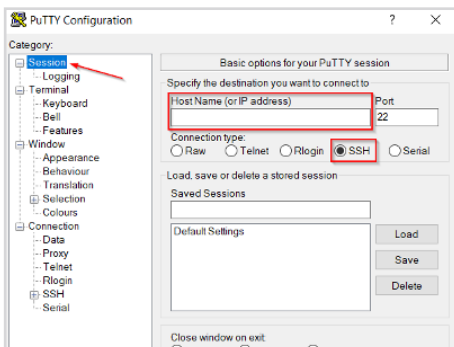Steps provided using PuTTY. Download available here: http://www.putty.org/
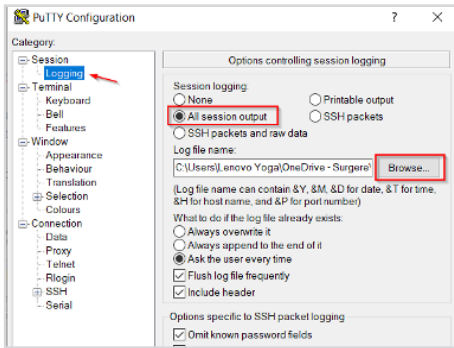
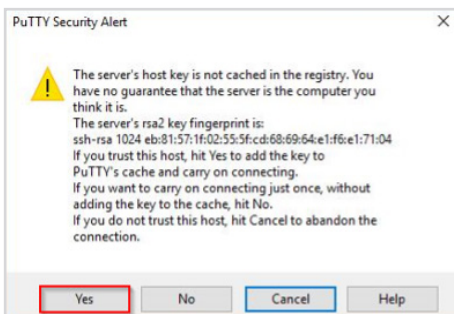**1** Open PuTTY and enable Logging of your session output

1a Click "Session" then "Logging" as shown to the left

1b In Options click "All session output" radio button

1c Choose the path and log file name to put the logging data

2 Click on Session, enter the reader's IP address, Select SSH, and hit Open

3 PuTTY Security Alert will open, select "Yes"

4 Log into the reader

4a Username: *root*

4b Password: *impinj*

5 At the > prompt type the following commands:

5a Check reader configuration: *show network summary*

5b Check LLRP connection: *show rfid llrp inbound*

5c Check log files: *show logging events err 1000*
                                        show logging events app 1000

5d Exit the reader: *exit*

Sensorware Service: Sensorware is built to automatically reconnect to a reader if it loses connection but some network settings may cause this to not function properly. To reconnect the reader the Sensorware Service must be restarted.

1 On the Sensorware Server open "Services"
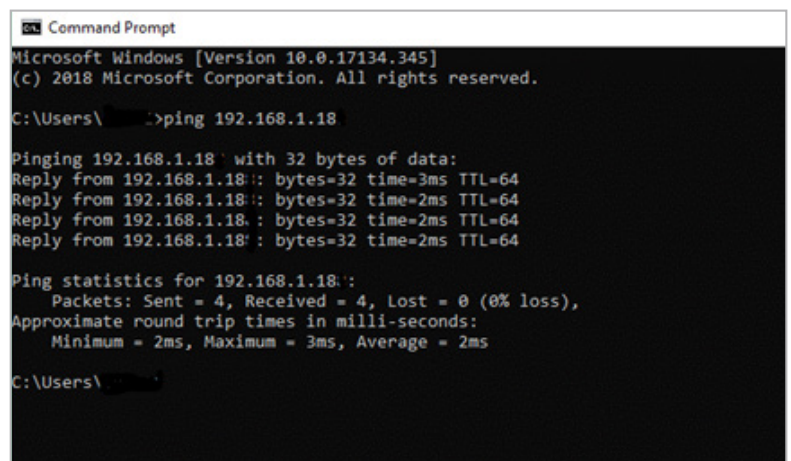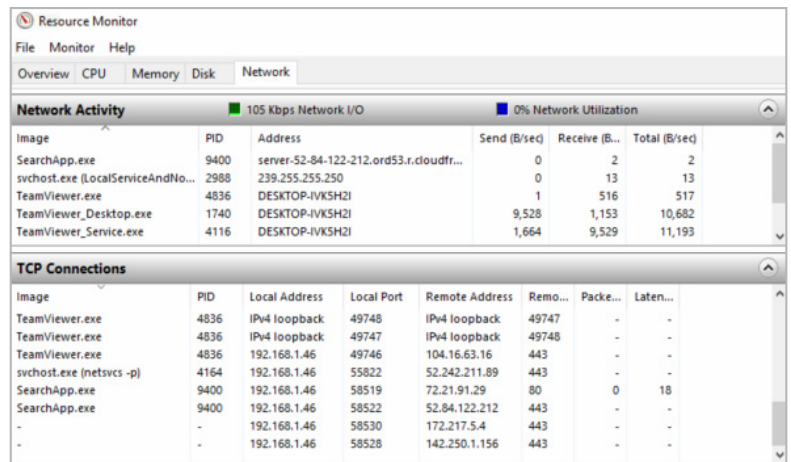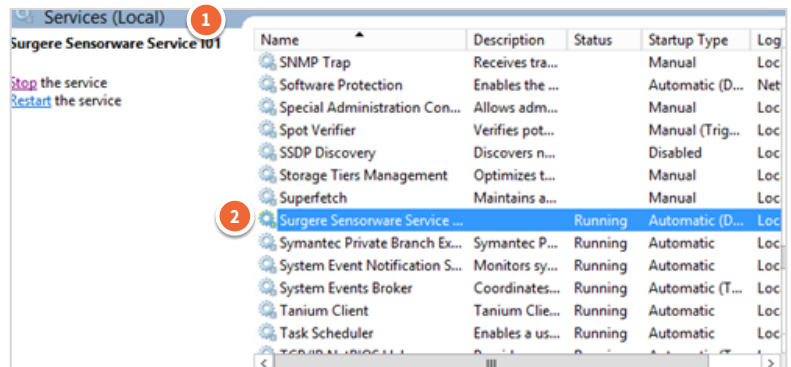
2 Search for Surgere Sensorware Service

3 Stop the Sensorware Service.

4 Verify the service has completely stopped by opening the Resource Monitor and checking the status under the Network tab.

5 Start the Surgere Sensorware Service.

6 Open a Command Prompt and ping the reader. Note results.

**7** Contact Surgere Technical Support and report findings.

DEFINITIONS

- **Portal –** tower(s) used to read RFID tags; typically set up at dock doors, conveyors, or choke points as a one or two tower configuration
- **Reader –** the unit within the tower which collects and forwards the RFID reads to Sensorware
- **Sensorware –** software used to communicate RFID reads to Surgere; resides on the server

Process Scope/Objectives: A photo eye is mounted on top of a portal and reflective tape adhered to the dock door in line with the photo eye beam. When the dock door is closed the reader is "inactive", meaning it's not reading assets. If there's an issue with the photo eye or stacklight the following steps should be completed.

See bottom of page for definitions.
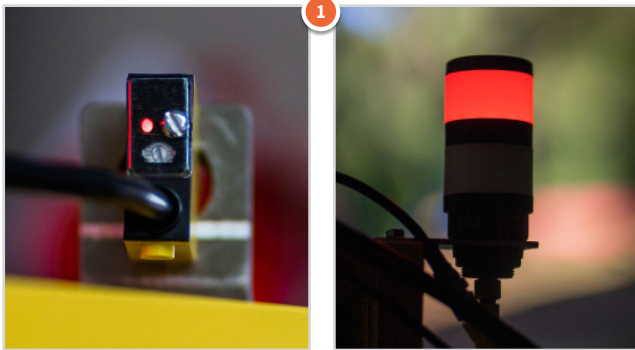
CHECKING THE PHOTO EYE:

1 When the photo eye light is on, the photo eye is reflecting & the reader is inactive /not reading RFID tags. The red stack light should be on.
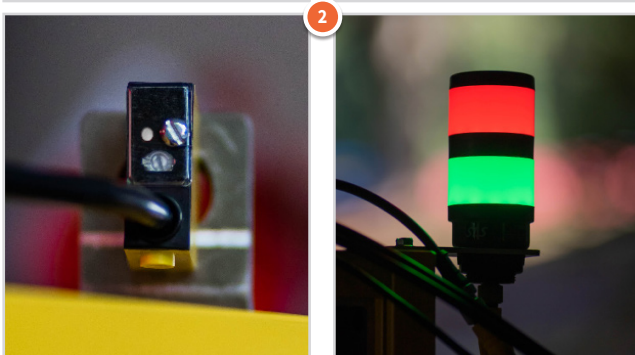
2 When the photo eye light is off, the photo eye is not hitting the reflective tape & the reader is active/reading RFID tags. The red & green stack light should be on.
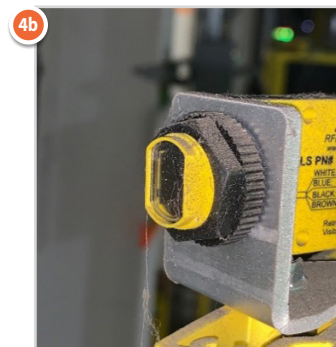
3 If the photo eye is switching between off and on: check to ensure the photo eye beam is not being obstructed.
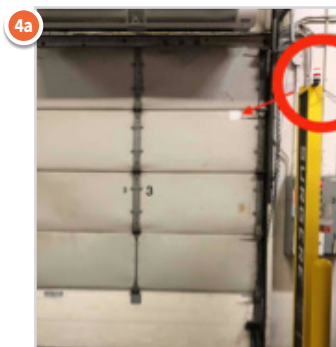
4 If a door is closed but the stack light is red and green:

4a Check to see if the photo eye is aligned with the reflective tape.

4b Check if the photo eye and/or reflective tape have dirt build up

DEFINITIONS
- **Photo Eye** – Equipment used to discover the distance, absence, or presence of an object by using a light transmitter and a reflective receiver.
- **Reflective Tape** – Reflective receiver placed on dock door aligned to the photo eye beam.

REQUIRED SOFTWARE – SSH/TELNET CLIENT

Steps provided using PuTTY, download on laptop/tablet: http://www.putty.org/

Configure via Console Cable

CONNECTING THE READER FOR CONFIGURATION

You will need the following devices and cables:

1. Impinj Reader
2. Ethernet cable
3. USB-C to RJ45 console cable **-or-** 4. USB to RJ45 console cable
5. PoE Switch/PoE network drop
6. Laptop/tablet with USB-C or USB port

STEPS FOR CONFIGURING THE READER

1 Connect the RFID reader like the above diagram and open PuTTY

2 In "PuTTY Configuration" screen set the following

2a Choose "Serial" for Connection type

2b In "Serial line" field, enter the COM port the console cable is connected to:

Reference: *Locating the COM Port Number - Windows*

2c In "Speed" field, enter 115200

3 Click "Open" button.

4 You will get a RShell login prompt. If you see a blank screen, hit the "Enter" key once.

5 Type the default login and password information:

Login: *root*
Password: *impinj (the password characters may not show as you type them)*

6 You are now logged into the reader's RShell interface.
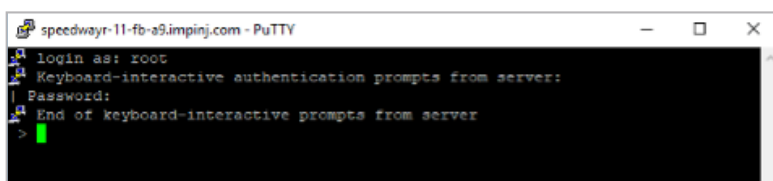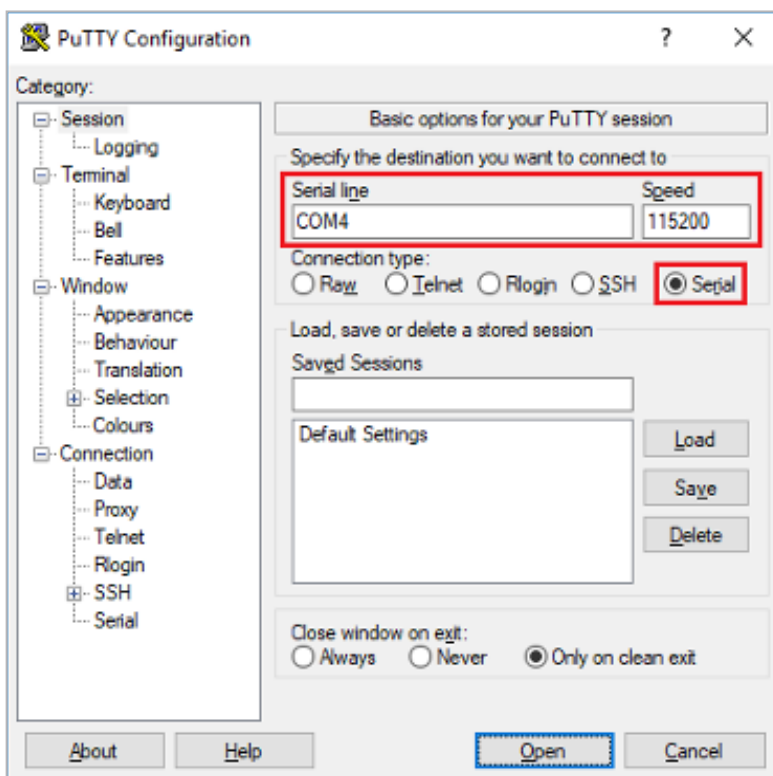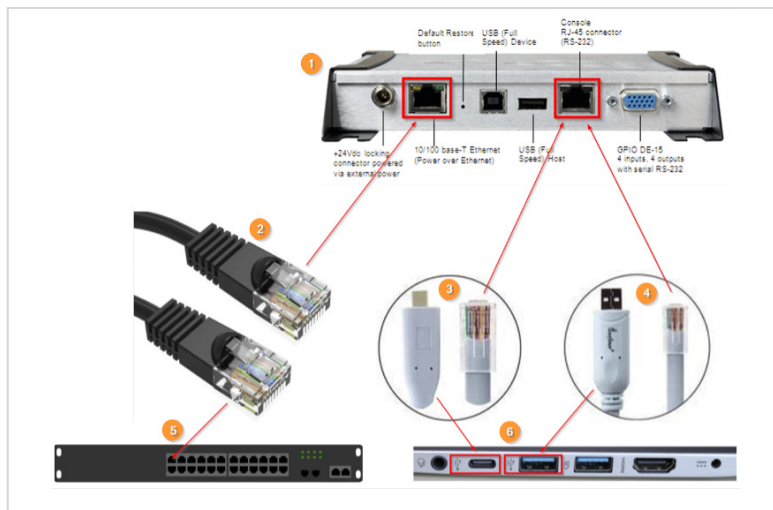
7 To find out the RFID reader's IP address, type the following at the RShell prompt:

> *show network summary*

8 To set the RFID reader to a static IP address you are configuring the *IP address, Netmask, Gateway,* and *Broadcast Address* separated by a space character:

> *config network ip static* xxx.xxx.xxx.xxx xxx.xxx.xxx.xxx xxx.xxx.xxx.xxx xxx.xxx.xxx.xxx

IP Address   Netmask   Gateway   Broadcast

For Example:

> *config network ip static 192.168.0.20 255.255.255.0 192.168.0.1 192.168.0.255*

9 To exit from the RShell interface:

> *exit*

Configure via SSH

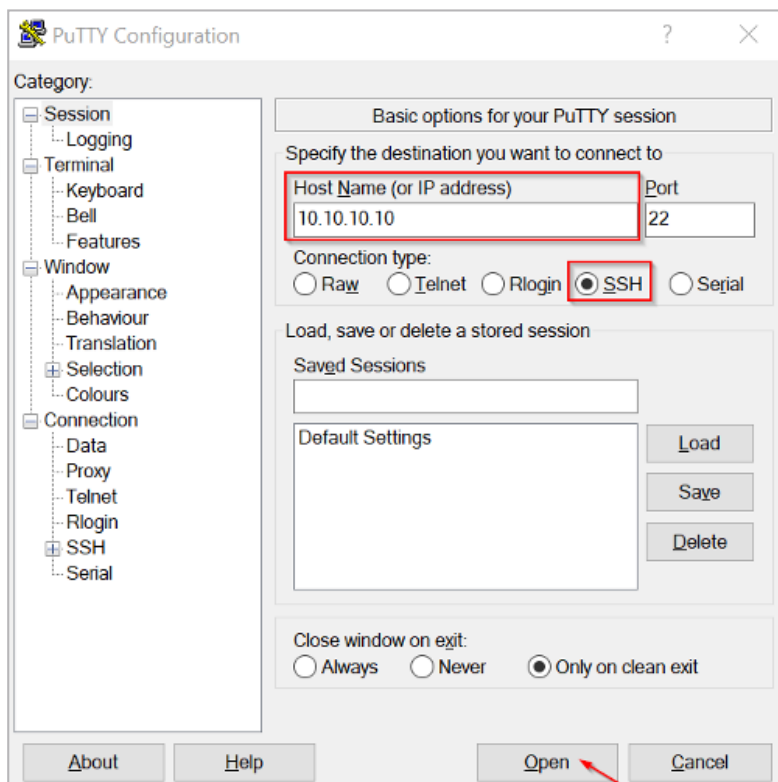**STEPS FOR CONFIGURING THE READER**

1 Open PuTTY or preferred SSH Client

2 In "PuTTY Configuration" screen set the following

2a Choose "SSH" for Connection type

2b In "Host Name (or IP Address) field input reader IP

2c Click "Open"

3 First time connecting to reader you will receive PuTTY Security Alert, select Yes.
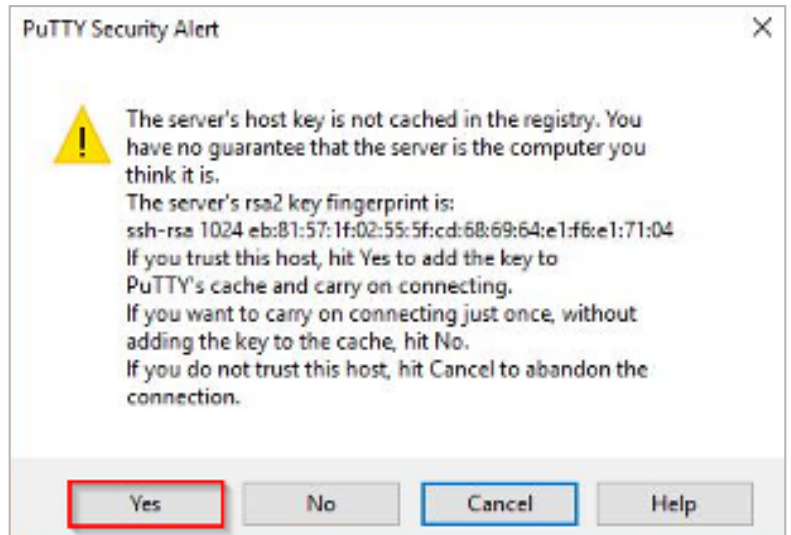
4 Log into the reader

Username: *root*
Password: *impinj* *(the password characters may not show as you type them)*

5 At the > prompt type the following command to confirm the reader IP:

> *show network summary*

PuTTY Security Alert ✕

⚠ The server's host key is not cached in the registry. You have no guarantee that the server is the computer you think it is.
The server's rsa2 key fingerprint is:
ssh-rsa 1024 eb:81:57:1f:02:55:5f:cd:68:69:64:e1:f6:e1:71:04
If you trust this host, hit Yes to add the key to PuTTY's cache and carry on connecting.
If you want to carry on connecting just once, without adding the key to the cache, hit No.
If you do not trust this host, hit Cancel to abandon the connection.

[Yes] [No] [Cancel] [Help]

6 To set the RFID reader to a static IP address you are configuring the *IP address, Netmask, Gateway,* and *Broadcast Address* separated by a space character:

> *config network ip static* xxx.xxx.xxx.xxx xxx.xxx.xxx.xxx xxx.xxx.xxx.xxx xxx.xxx.xxx.xxx

IP Address   Netmask   Gateway   Broadcast

For Example:

> *config network ip static 192.168.0.20 255.255.255.0 192.168.0.1 192.168.0.255*

7 To exit from the RShell interface:

> *exit*

LOCATING THE COM PORT NUMBER – WINDOWS DEVICES

1 Open Device Manager

2 In Device Manager expand Ports (COM & LPT).

3 Find "USB Serial Port (COMx)" entry. Use this COM port number in PuTTY's serial connection (See example below: COM4)