

1. Introduction

PackGen is a packet simulation application designed to simulate the sending of packets over a network. It provides users with the ability to create, save, and send packets at any time, with support for multiple transmission types, including TCP, UDP, and SSL. PackGen also offers features for managing saved packets, such as searching, deleting, and clearing logs of sent packets.

This document outlines the specifications and use cases of PackGen, providing a clear understanding of its functionality and how it can be utilized.

2. Application Overview

2.1 Application Name

- **PackGen**

2.2 Purpose

PackGen is a simulation tool that allows users to:

- Create and save packets for future transmission.
- Send packets using different transmission protocols (TCP, UDP, SSL).
- Manage saved packets (search, delete, clear logs).

2.3 Key Features

1. **Packet Creation and Saving:** Users can create packets and save them for later use.
 2. **Packet Transmission:** Supports multiple transmission types:
 - TCP (Transmission Control Protocol)
 - UDP (User Datagram Protocol)
 - SSL (Secure Sockets Layer)
 3. **Packet Management:**
 - Search through saved packets.
 - Delete specific packets from the saved list.
 - Clear logs of sent packets from the sent table.
 4. **Log Management:** Users can clear the logs of sent packets to maintain a clean record.
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3. Detailed Specifications

3.1 Packet Creation and Saving

- Users can create packets by specifying the following details:
 - Name
 - ASCII
 - Port number
 - Hex
 - Transmission type (TCP, UDP, SSL)
 - Address

3.2 Packet Transmission

- Users can send saved packets at any time.
- Transmission options:
 - **TCP**: Reliable, connection-oriented transmission.
 - **UDP**: Fast, connectionless transmission.
 - **SSL**: Secure, encrypted transmission.
- Packets are moved to the "Sent Table" after transmission.

3.3 Packet Management

- **Search**: Users can search for specific packets in the saved list using keywords, IP addresses, or other filters.
- **Delete**: Users can delete unwanted packets from the saved list.
- **Clear Logs**: Users can clear the logs of sent packets from the "Sent Table" to free up space or maintain privacy.

3.4 User Interface

- The application features a user-friendly interface with the following sections:
 - **Packet Creation Panel**: For creating and saving packets.
 - **Saved Packets Table**: Displays all saved packets with options to search, delete, or send.
 - **Sent Table**: Displays logs of sent packets with an option to clear logs.
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4. Use Cases

4.1 Use Case 1: Creating and Saving Packets

- **Actor**: User
- **Description**: A user creates a packet by specifying the source IP, destination IP, port, payload, and transmission type. The packet is saved for future use.
- **Steps**:
 1. Open PackGen.
 2. Navigate to the Packet Creation Panel.
 3. Enter packet details.
 4. Click "Save Packet."

4.2 Use Case 2: Sending Packets

- **Actor**: User
- **Description**: A user sends a saved packet using the desired transmission protocol (TCP, UDP, or SSL).
- **Steps**:
 1. Open PackGen.
 2. Navigate to the Saved Packets Table.
 3. Select the packet to send.
 4. Choose the transmission type (TCP, UDP, or SSL).
 5. Click "Send Packet."

4.3 Use Case 3: Searching for Packets

- **Actor:** User
- **Description:** A user searches for a specific packet in the saved list using keywords or filters.
- **Steps:**
 1. Open PackGen.
 2. Navigate to the Saved Packets Table.
 3. Enter search criteria (e.g., IP address, port number).
 4. View the filtered results.

4.4 Use Case 4: Deleting Packets

- **Actor:** User
- **Description:** A user deletes a packet from the saved list.
- **Steps:**
 1. Open PackGen.
 2. Navigate to the Saved Packets Table.
 3. Select the packet to delete.
 4. Click "Delete Packet."

4.5 Use Case 5: Clearing Sent Logs

- **Actor:** User
- **Description:** A user clears the logs of sent packets from the Sent Table.
- **Steps:**
 1. Open PackGen.
 2. Navigate to the Sent Table.
 3. Click "Clear Logs."