

# PASTA Threat Modelling

## Scenario

You're part of the growing security team at a company for sneaker enthusiasts and collectors. The business is preparing to launch a mobile app that makes it easy for their customers to buy and sell shoes.

You are performing a threat model of the application using the PASTA framework. You will go through each of the seven stages of the framework to identify security requirements for the new sneaker company app.

Stages	Sneaker company
I. Define business and security objectives	<ul style="list-style-type: none"><li>● Users can create member profiles internally or by connecting external accounts.</li><li>● The app must process financial transactions.</li><li>● The app should be in compliance with PCI-DSS.</li></ul>
II. Define the technical scope	<p>List of technologies used by the application:</p> <ul style="list-style-type: none"><li>● Application programming interface (API)</li><li>● Public key infrastructure (PKI)</li><li>● Advanced encryption system (AES)</li><li>● SHA-256</li><li>● SQL</li></ul> <p>APIs facilitate the exchange of data between customers, partners, and employees, so they should be prioritized. They handle a lot of sensitive data while they connect various users and systems together. However, details such as which APIs are being used should be considered before prioritizing one technology over another. So, they can be more prone to security vulnerabilities because there's a larger attack surface.</p>
III. Decompose application	<pre>graph LR; User[User] -- "Searching for sneakers for sale." --&gt; Process((Product search process)); Process -- "Listings of current inventory." --&gt; Database[Database];</pre>
IV. Threat analysis	<ul style="list-style-type: none"><li>● Injection</li><li>● Session hijacking</li></ul>

<b>V. Vulnerability analysis</b>	<ul style="list-style-type: none"> <li>● <i>Lack of prepared statements</i></li> <li>● <i>Broken API token</i></li> </ul>
<b>VI. Attack modeling</b>	<pre> graph TD     A[User data] --&gt; B[SQL injection]     A --&gt; C[Session hijacking]     B --&gt; D[Lack of prepared statements]     C --&gt; E[Weak login credentials] </pre>
<b>VII. Risk analysis and impact</b>	<i>SHA-256, incident response procedures, password policy, principle of least privilege</i>

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