

Project Planning Phase Technology Stack (Architecture & Stack)

Date	24 October 2023
Team ID	Team-591507 (10.3)
Project Name	Web Scanner

Technical Architecture:

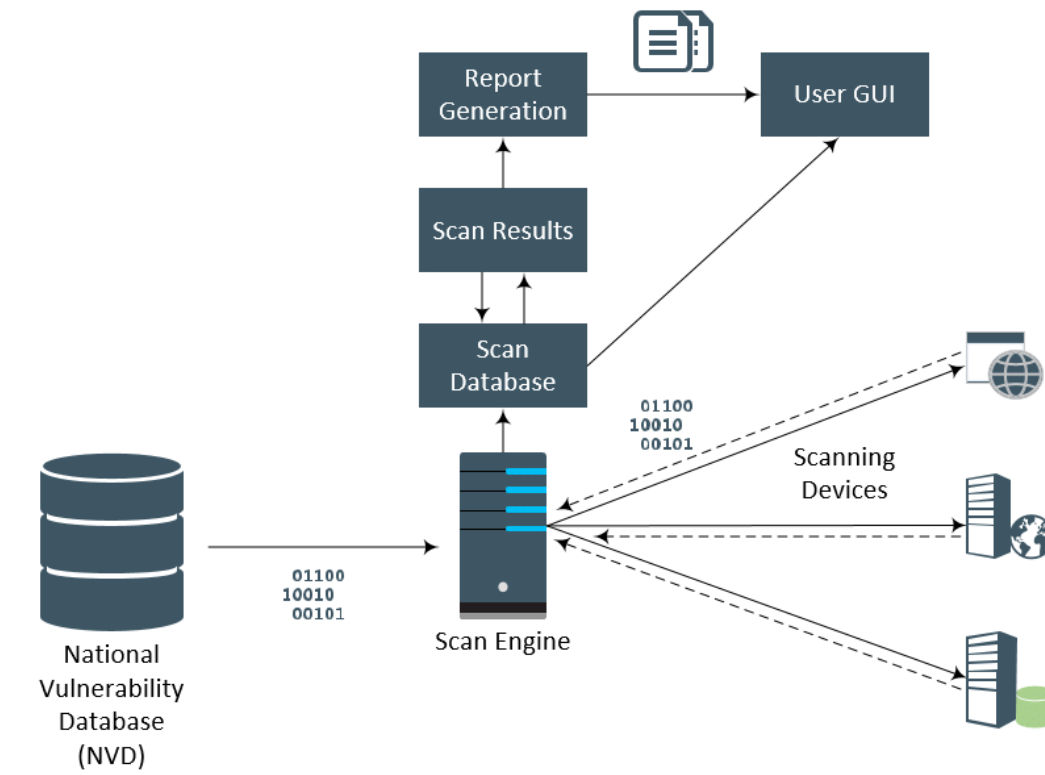


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Provides input fields for entering website URLs, scan configurations, and displays scan results.	React.js or Angular Material-UI, Bootstrap, Tailwind CSS
2.	Notification System:	Sends notifications (email or in-app) to users upon scan completion.	Redux (or Context API for React.js) Axios
3.	API Endpoints:	Handle user requests for starting scans, retrieving scan results, and managing user profiles.	Node.js with Express.js or Django (Python) Passport.js
4.	Queue Manager	Manages the queue of scan tasks, ensuring they are processed efficiently.	Sequelize (for PostgreSQL) or Mongoose (for MongoDB)
5.	Authentication and Authorization:	Validates user credentials, manages user sessions, and enforces access control policies.	Swagger/OpenAPI
6.	User Profiles:	Stores user information, including email addresses and authentication tokens.	PostgreSQL or MongoDB
7.	Scan Configurations:	Records user-defined scan parameters and schedules.	SQL (PostgreSQL)
8.	Scan Results	Stores detailed results of each vulnerability scan.	MongoDB Query Language
9.	Nikto Integration	Executes Nikto commands, configures scan options, and handles responses from the tool.	Perl
10.	Data Processing:	Converts raw Nikto output into structured data for analysis.	Python or Node.js scripts
11.	Report Generation:	Creates detailed PDF reports with vulnerability descriptions, potential risks, and recommendations.	ReportLab (Python) or pdfmake (JavaScript)
12.	Analysis:	Categorizes and prioritizes vulnerabilities based on severity.	Custom algorithms or libraries for categorizing vulnerabilities

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Notification Service:	Sends email or in-app notifications to users upon scan completion.	Nodemailer (Node.js) or SMTP services
2.	API Service:	Provides RESTful APIs for programmatic interaction with the scanning service	Express.js (Node.js) for building RESTful APIs.
3.	Security:	Implements SSL/TLS protocols, security headers, and input validation to ensure system security.	SSL/TLS certificates, Helmet.js for HTTP security headers, input validation libraries like Joi

