

1) Write a brief explanation comparing CGI and Servlets (advantages of servlets over CGI).

Ans.

CGI (Common Gateway Interface) vs. Servlets

CGI and Servlets are both used for handling dynamic web content, but Servlets offer several advantages over CGI.

1. **Performance:** CGI creates a new process for each request, leading to high memory and CPU usage. Servlets, running within a JVM, use threads instead of processes, making them faster and more efficient.
2. **Scalability:** Due to its process-based nature, CGI struggles with high traffic. Servlets, being thread-based, handle multiple requests efficiently without excessive resource consumption.
3. **Memory Management:** CGI loads a separate instance for each request, consuming more memory. Servlets use a single instance with multiple threads, reducing memory overhead.
4. **Persistence:** CGI programs do not maintain state across requests, requiring additional mechanisms like cookies or sessions. Servlets support session management, making it easier to track user interactions.
5. **Security & Maintenance:** Servlets are part of the Java ecosystem and benefit from robust security and better maintainability compared to CGI scripts, which are typically written in C, Perl, or Python.