

Creating a Layered Architecture Model for an online judge system would typically involve designing various layers such as:

- ① Presentation Layer
- ② Application Layer
- ③ Service Layer
- ④ Data Layer

Presentation Layer: Handle user interface and interaction

Application Layer: manages the core logic for processing the judges request.

Service Layer: Deals with task like running the submitted code.

Data Layer: Store and retrieve data from databases

Diagram : Representation :

Presentation Layer

Frontend : User Interfaces for submission, problems.

Application Layer

Business Logic : Submissions, contests, etc

Execution Layer

Code compilation and sandboxed execution

Data Layer

Databases : Users, problems, test cases, results

Integration Layer

APIs : communication between components

Security Layer

Authentication, authorization, and threat mitigation

Monitoring and Logging Layer

(System health, logs, alerts for administrators)