

1. What are the differences between the layers pattern and domain object pattern?

- The layers pattern defines two or more layers for the software under development, where each layer has a distinct and specific responsibility. To make the layering more effective, the interactions between the layers should be highly constrained. While the domain object pattern encapsulates each distinct, nontrivial piece of application functionality in self-contained building block called a domain object.

2. What are the commonalities between data mapper and proxy patterns?

- The proxy frees both the client and the subjects from implementing component-specific housekeeping functionality. It also transparent to clients whether they are connected with the real subject component or its proxy, because both publish an identical interface. A data mapper is a mediator that moves data between an object-oriented domain model and relational database. A client can use the data mapper to store or retrieve application data in the database. The data mapper performs any needed data transformations and maintains consistency between the two representations. Both need to insulate applications, transfer data, may be impractical to access the services of a component directly.

3. What problem does interface partitioning solve?

- It separates the explicit interface of a module from its implementation, and exports the explicit interface to the clients of the module, but keep its implementation private.

4. What are the differences between increase cohesion and reduce coupling tactics?

- In increase cohesion, If the responsibilities A and B in a module do not serve the same purpose, they should be placed in different modules. This may involve creating a new module or moving a responsibility to an existing module. While in reduce coupling, it can either encapsulate, use an intermediary, restrict dependencies, refactor, or abstract common services.

5. What strategy would you use in your architecture to recover from attacks?

- I would use the Maintain Audit Trail, which will help in keeping a record of user and system actions and their effects, to help trace the actions of, and to identify, and attacker.