Mendix.- Principles of designs.
Low code platform.

Domain model - visual representation of data. Each module has its own domain model.
Information used to describe application in an abstract way
Entity - Represent class of real world object.
Two types of Entity -
Presistable - store in database.
Non-presistable - show in runtime memory.
Attributes - Identify the entity.
Types - Autonumber, Binary, Boolean, Data and time, Decimal, Enumeration, Hashed string, integer, long, string.
Association -
One to one.
one to many
many to many
validation rules. ✓ till the required (stay)
1) Datavalidation on entity level.
2) page validation. (in dataview page)
3) Advanced data validation Before commit event (in DMpage - eventhandler)

4) Advanced validation with custom save.
5) validating multiple attributes.
Generalization.
Additional informations can be added.
customize entity without prevent getting updated versions of module
Inherited (or) associated Entity.
Security.
project security
Types - 3 - off, prototype demo.
production.
Prototype - Also given access to mf, Nf, Anonymous user, admin,
production - Give access even Entity, reports also
user role - Admin, user, inbuilt.
Demo user - Enable demo user settings
Anonymous user - without login page here can signin.
Annotations - used to add comments to the dm (Microflow)
App security - module roles
specific role can created and set access permission.

Mitroflow -
visual way of expression a textual program code.
Mf notation. Client
① → green → Start. ② → Red ③ → Error
④ → Violet ⑤ → End
⑥ → Continue ⑦ → Orange ⑧ → Break
How.
→ Sequence → merge with each other
--- Annotation. → connect to another element

Decision.
◇ → orange.
→ True (or) false → no parallel execution
◇ → green → object type → specilization.
◇ → red → merge → common works needs to be done.

Activity -
loop - Iterator (Entity)
parameter - (Entity list)

Datasource - Widgets that display information stored in Entity to retrive relevant data
Include all data container and input element
DataView Context, Mf, NF, listing widgets.

xpath. Query language used to retrive data.
uses path expression to select data of mondix object, attributes, association.
Function - AVG, Count, Sum
Xpathelements, tokens, operators.

Data view - Showing content of object on a page.
Eg - form filling
Data Grid - Showing list of object in table format.
Nanoflow → run directly on the browser/device & can be used in offline app
Tokens - Small piece of information can be stored in Email
parameter
special kind of variable used as input in mf
Navigation
structure of the app for user.
Allows to set homepage.

REST- Representational State Transfa.
Consume - from wikipedia page.
JSON structure
Document stores a JSON snippet
JavaScript object notation.
REST API Application programming language - REST allows for interaction with RESTful web service
GET - Retrive information about restAPI resource.
POST - Create a RESTAPI resource.
PUT - Update a RESTAPI resource
Delete - Delete related component in resource.
Web service - Integrating a mendix application with external system.
used to retrive data, send updates and perform operations.
done in my using call web service action.

Import mapping -
used to define how incoming XML or JSON is converted into mendix object.
Export mapping
used to define how mendix objects can converted to XML according to specific XML schema.
Message definition
Defining your mesg allow to create import & export mapping them.
used for both JSON & XML and can used for both single object and list of object.
HTTP Response.

REST
XML, JSON, plain text.
REST can use SOAP protocol

SOAP
SOAP uses only XML.
SOAP cannot use REST.

List view
List of object.

Retrieve
Associated to an object by following an association.

Range. Always allocues you to send two values between two bounds.

Enumeration.
List of one or more items. Each item represent one optio.

History. All changes that have been committed to a development line of an appp.

Team server
gives you all the controls you need to manage who has access.

Java action
Allocus you to build complex backend logic by writing code.

Version control
Allow you to store the current revisica of you model

RESTful / Representational State Transfer

→ The underlying protocol of REST is HTTP.

* Lightweight, maintainable, and scalable service that is built on the REST architecture.

Key Elements

1. Resource
2. Request verbs
3. Request Headers
4. Request Body
5. Response Body
6. Response Status code

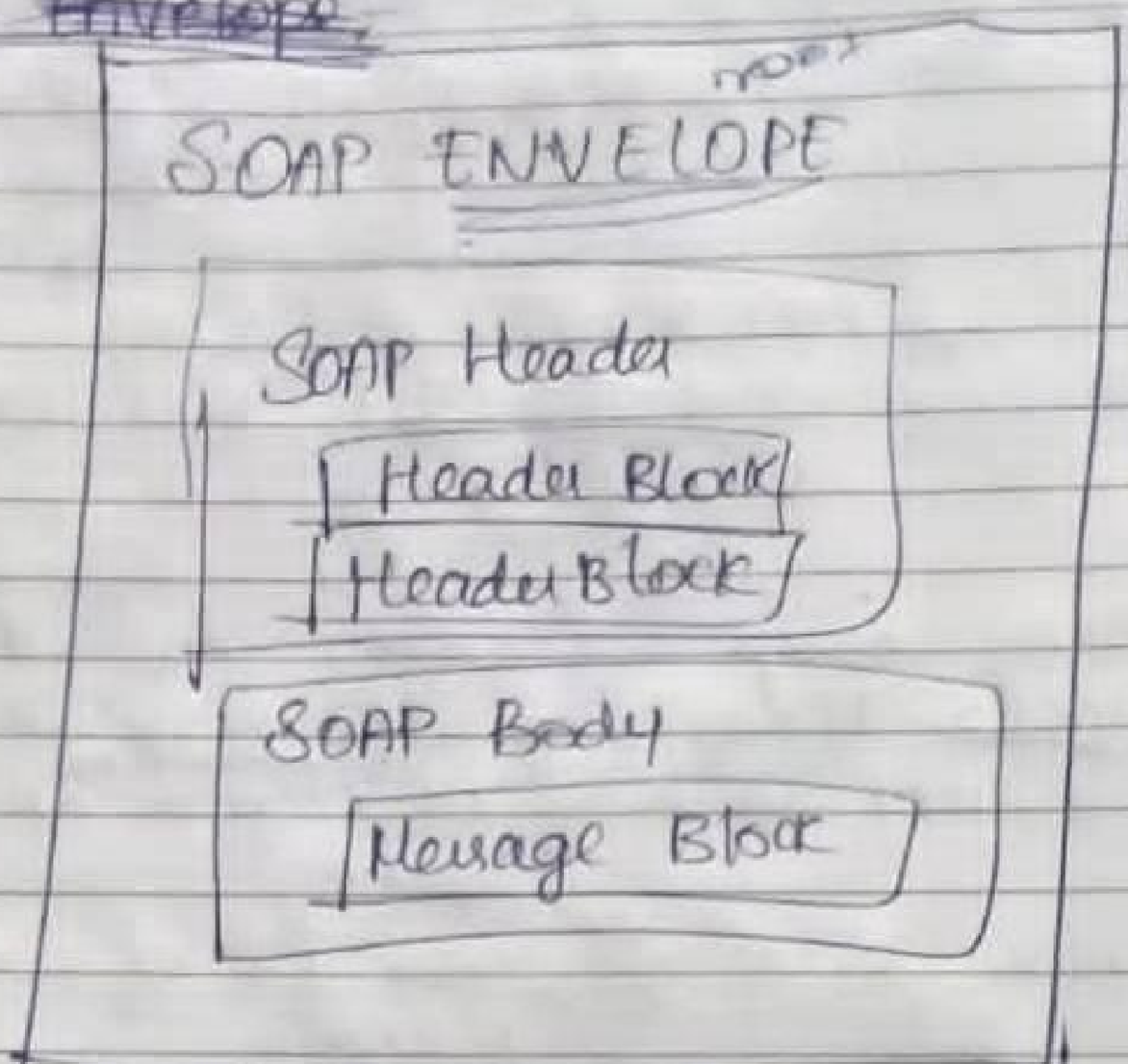
RESTful Methods:

1. POST (Send & Get the data)
2. GET (Read & fetch the data from Server)
3. PUT (update & add the data)
4. DELETE (delete the data)

WSDL (Web Service description language)

1. A web service cannot be used if it cannot be found

SOAP ~~Envelope~~ Architecture



Soap Message Elements:-

1. Envelope Element
2. header element
3. body element
4. Fault element (optional)

Fault Message:

1. Success response - SOAP msg
2. Error response - HTTP 500

SOAP fault msg elements

* <fault code> → code of the error

  - SOAP-ENV: Version Mismatch
  - SOAP-ENV: Must Understand
  - SOAP-ENV: Client
  - SOAP-ENV: Server

* <fault string> → detailed description of the error

* <fault Actor> → who caused the fault (optional)

* <detail> → application specific error msg. (optional)

SOAP communication model

- Get Employee
- Set Employee

(14) Mendix X-Path (Mendix used in Retrieve object)

Mendix query language

↓

used to retrive data

Uses path expression to select data of Mendix objects and their attributes or associations.

X-path queries can be written in both

Studio Pro & Java environment

→ Not all operators are supported by Studio Pro.

→ query may differ between Studio Pro and Java environment

X-Path Elements

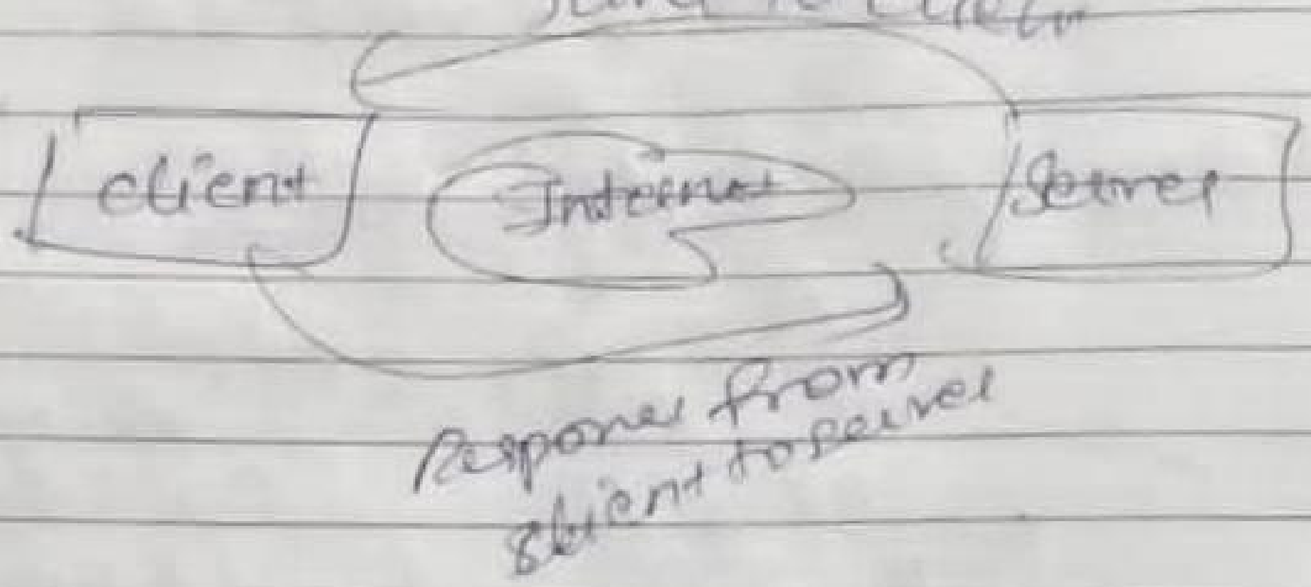
1. A → Aggregate function (optional) → avg, count, max, min, sum

2. B → Entity to retrieve (required) → //Sales.order

3. C → constraint (optional) → [IsPaid = true]

Web Service

Web Servile is a standardized medium to propagate communicate between the client and server application on the HWW (world wide web). A web Servie is a Software module that is designed to perform a certain set of taske.



Need of Web services :-

Web Servies provide a common platform that allows multiple applications but on various programming language to have the ability to communicate with each other.

Type of Web Service

1. SOAP
2. Restful

DATE

H: D → Attribute to achieve (optional) → /Total Price

X-Path Tokens:

// — → 1) All queries started with this.
2) Followed of designation of obj

. — → 1) Separate module name from entity name

/ (association) — → 1) want to refer new entity or association

[ ] — → A constraint always written between sq. brackets

( ) — → ~~Clear~~ constraints can be grouped by parenthesis

X-Path Operators:-

=, !=, <, <=, >, >=, or, and

Java Code Operators:

+, -, *, div