

Lec #1

Web Services :

Different types but we will do only 1. 3 week 1 pr rly.

AS MX used.

Distributed issue over the world like latency, data send. Some companies give solution distributed object computing. Object calling.

Multiple PC we communication.

Remote object calls.

2 issues i) object latency of server
or excel excel create then return and also I call destructor.

ii) OOP is used so object & event etc so with certain time this to overhead So to limit we use web services.

Web services over the web provide.

HTTP / HTTPS over the web.

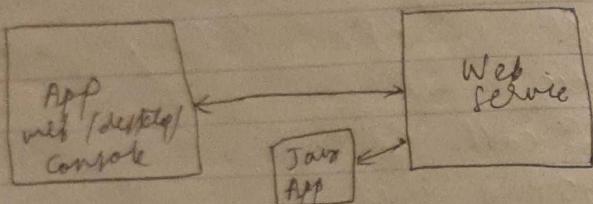
Web services are HTTP / HTTPS.

Object is language specific done in 1 language ie homogenous. When we

want to over the web to HTTP
protocol use. Hence there is heterogeneity
we have to use service bus.
2nd issue SOAP it is protocol not
also used over the web. Message pass.

Object based constructor, destructor calls.

Message pass only give text.
The object calls will in message pass.



The object call and return. Abh
message pass by HTTP. HTTP
protocol has mostly
communication using SOAP so do
understand.

SOAP.

SOAP based webservice work only on XML.
restful will SOAP we can only abhi.
data transfer in XML.

e.g. WS we make method. If call
method then give data in XML.
object/Data → XML (XML serialization)

App for ready do deserialization i.e.
XML to Object.

The App both the communication is
done to object but in real it
is XML.

Method calling is handled by SOAP.

if get-age() is in SOAP form.

API = Application Programming Interface
Interface basically help us to implement easily.

if Testca, Testrunner for file read, with
API ^{may be} not be web based.

can many K methods by backend pl
kin like nli pl.

Web Services
Subject

API
portion of Web services

Q) What's the difference b/w web services and API?

Ahi SOAP based services par kya hain.

Service Oriented Architecture : I receive provide data. 3rd party integration k liye. eg google app API for integration.

HTTP, SOAP, XML, over the web XML ne kam ahi.

Pehle object pass abh XML pass.
XML easily understood. Format ismen hi.

He app XML smjh skta hai.

If object use C# ka sed to dusre receive thi C# pr kora chahiye.

Good practice is API used if integrate / expose krra hai yar nhi 3rd party ko.

API expose to integrate.

App 1 system pehle abh 2 system.
Load divide / Scalability of 2 system
Web server

It is in Service Oriented Architecture.

Code: ASMX Data App. net bray hain

VS → Visual C# → App. net application
→ empty

Session hotsy in Web
Stateful / stateless.

Call me

Web services stateless bray tk
data can but stateful bray not.

project → add → Web service

Partial part back are in Web Method.

Web Method kya pe likho gy to
wo use ho ga.

Web Method on top of all method.

ASMX value to default page show.
Security Risk & like web Method use.

Invoke to test.

Test & like invoke use.

Portman

This is top per Web Method nahi wo
nhi chly ga. Export nahi hoga.

In code export na method no export
but use wj Hellomodel for security
purpose.

Lec #2

Web Services

Benefit

- ii) Object Transfer, Over the world data transferred
to web pp
- iii) HTTP open but 2 machine nify use SOAP.
SOAP on XML.

Web Method on top

Absi ASMX per why / SOAP based / XML based.

Session Management in client and server is
stateful as br br authenticate nhi
karna pata.

Stateless call me he request test
as new user to again authenticate
dabara. If token based to be k
token begin.

Stateless basi ASMX but stateful
br aiky hai. Response show in
stateful so our try k stateless
use.

Interoperability:

Different language, OS, environment pe illa sky. Web service interoperability hai.
Web services re interoperability ne bda ho.

Benefit of Web Service Integration:

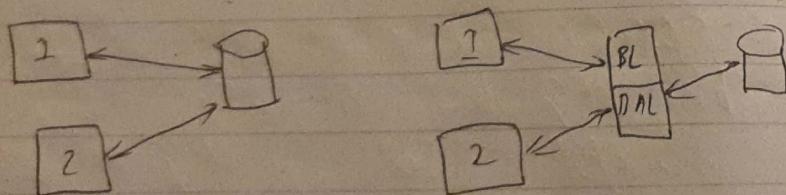
i) Code redundant nahi.

Ex Desktop, Mobile, Web 3 front end
ne same functionality to 3 k jagi

1 data likhein. So 3 ki jaga 1 call.
ie 3 interface call to 1 interface call.

ie of redundant chage to 3 ki

jagi ki web service is layer
ne form main gy. Stored procedure
ki call to kisi hoti.



Code call i 1, 2 ad stored proc i DB.

If SQL sy response to 1, 2 doos re chage.
So abstraction k liye layer.

so code men chage is loosely coupled.

ii) Scalability / Load Divide
ie 100M customer by 200M per day.

Load Balancer can be use on web services.

SOAP:

HTTP pr communicate jis pr object
data tha abh XML data.
Simple Object Access P

WSDL:

Web Service Description Language.
HTTP or HTTPS (kon si badi)

Icon sy method ha
Metadata tell of SOAP

Return type

Kon si post

Set of methods WSDL sy ph chalte
ha. Then WSDL k libar sy call
method.

Code:

Function pe chik -> give parameter -> interface

Consumer = client ki application

Logic web service yeh karta hai.

Common Logic Web Service pe shift.

MyCalculatorService. MyCalculatorSoap Client

1 service ke multiple service ke ske hain.

. ka k method aye ga.

Object jo braya wo _____.

Reference -> Add Service Reference -> Give URL
Namespace define and add

Proxy class make.

Intellisense (. h) ke wo proxy class
only dekta tha kota hai.

Proxy class bny gi
ws by call proxy gya.

ake ke body nahi jati & Y method
signature ja Raha hai. Tum hi
proxy hota kya hain.

When call method wo web service ko
karta hai.

Service Reference ko update if new method
aaya to. Different version support.

Proxy bhi update when service reference
update.

Method mujhe WSDL ke available
hain.

ASMX web service request response pe
ham karta hai ie client initiate
karta hai.

WSDL is definition language. Client ke
bhary & hiye kia methods hain.

Security & hiye WSDL hide bhi
ke sakte hain.

Unit 16: *ut the App only take dynamic key.*

Infiltration net per hour past 100
negative.

WSDL Escape

SOA (Service Oriented Architecture):

To add
sth pto - API bhi in liye braty.

Lee 3

Skeleton Soap:

HTTP has header and body.
Header Response OK, 404
body actual dat

SOAP body ne hoga HTTP ke.

SOAP ka envelop hai.

Envelope ← Header

SOAP Envelope ← Header, body, Fault
fault is in body.
SOAP fault try we also type optional header
If try catch the no error because
no though. Age though no error so
to me SOAP is fault me ay ga.

WSDL and SOAP are semantic overlays.
↓
so method show. ↓ Go vetted call
after info pass

And we supplication bring both we wish
only we hope.

vanespace tell version of SOA
Encody and

The encodingStyle Attribute:

SOAP Header Element:

It is compulsory.
Header ve info pass related to security. You can customize it but not in ASMX.

e.g. like to add multiple route
must be defined = 1 or 0
multiple to say am change
it will be done.

App with which you have to transfer
block to say. If 0 then intermediate
interceptor will only transfer.

actor we define & say property ga.
option - actor & class koi m pty.

SOAP Body Element:

Human Readable.

Web Service & method call.

WSDL tell method name and response.

XML we SOAP use XML message to send.

SOAP Fault Element:

Error msg to first check Error list
① error code ② error short description
③ stack list

3 character when error msg.
SOAP " " character on error

① fault code, ② fault string
③ faultactor ④ detail
↓
not handled ja ke error msg

SOAP Binding:

HTTP or HTTPS
ASMX by HTTP or HTTPS protocol
SOAP SMTP etc protocol by ga

Content-Type:

e.g. content-type pdf. So if pdf come to default we open. user to user media
content-type: application/pdf
To user to pdf cannot send
place by a

SOAP Example:

Code: In slides

Object Vs Var Vs Dynamic:

Point class is object.

Object obj is point to use
it, its etc with obj.

Var is this is possible is
to i datatype see for dynamic.

In Object int & bd strg to ✓

In Var int & bd strg to X

Var is first initialize datatype objects.

Var to initialize both in var but.

Var var25; error no initialize.

Var / pehle ny declare nhi.

Object thru sy hai .NET ne
Var LINQ ke saath .NET ne aya

& bd list of methods intelligence.

object obj = ?;

obj. (so multiple method show)
(uprod rasty) (at, obj sth ke datatype
show)

Var var1 = ?

var1. (only int & method show)

Dynamic Nahi btaa is capabil k par
Koi info nahi.

dynamic d1 = new Employee();
d1.ToString();

dynamic run the pr elha not a capabil
the.

e.g. d1.ToString() is no function no
run the pr error ayga capabil nahi.

Dynamic we carry nhi keni pti.
Object we upward/backward keni n.

Var as function parameter pass nli.

Lec 4

Paper Review:

Lec 5

Proxy class banti jis se return type ad
operator & definition proxy e nahi k
web services me.

Service reference need to be refresh
if add reference of svpt.

WSDL : AS MX ka WSDL definition
? WSDL listo

If WSDL milti to koi bhi consume
ke ske hai. WSDL by proxy
class banya hain.

Widows Cmd : (proxy class make)

wSDL wsdl ^{out:} output-path
of asmx

Web service sy proxy class generated.
Reference add keny hold all zorin nli.
Isi CS file to include kro.

Is C# file re ult hi hote hui.
App config re dal do ahi.

Service re new method add to what to do
proxy class regenerate then build.

I app 4 method, I app 20 method
so only proxy class change.

use proxy benefit redundant file entry
and we add reference here ki ekhon
nhi.

IVehicle obj = new Vehicle(); ✓
Vehicle " " = " " IVehicle(); X

Vehicle obj = new IVehicle(); X
I is for interface.

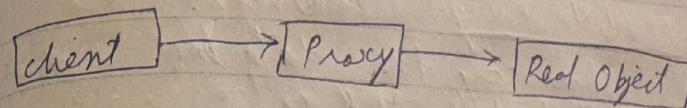
Constructor class re hota Interface re hhi hote.
Left ka object ad right ka constructor call

FIRST Upward Casting

PROXY DESIGN PATTERN:

Proxy problem ka solution is Design Pattern.
Overlap b/w DP.
Proxy class follow Proxy pattern.

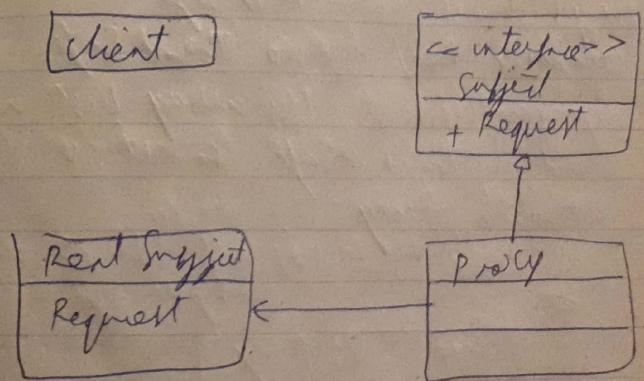
problem:



client ask wa proxy real object bhy ga.

if add 2 variable in RO so we make
proxy / Wrapper jis ne 2 add call.

Actual Functionality RO re hote.



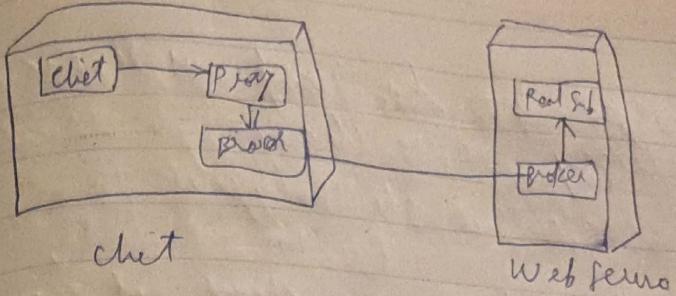
3 types of Proxy

i) Remote Proxy: Actual object location.
like web service is taken care as
proxy at local host me.

ii) Virtual Proxy: Interpolate data
show copy from data base.
OR Interpolate net page

iii) Protection Proxy:
eg Read only array list so
not wrapper class make but
accessibility change eg Student,
teacher along access.

ArrayList is not Thread Safe.
Generic Preped wo Thread Safe
Synchronized List (is array List wrapper
and is thread safe so it is
Protection Proxy).



Data ko XML se serialize and ~~HTTP~~
HTTP se data to us bhej.

Broker Proxy work b/w 2
systems.

Broker send data to web service.
Data Marshal / Serialize XML or JSON
|| Unmarshal / Deserialize || ||

Lazy Loading:

→ eg NoSQL database ad we have set
of document. To poll memory we will lazy
by jobs change when memory ne kila.

→ OS se Scheduler.

→ Memory only nahi oxy job required ho.

Object from list but we have
every one in list.

Dirty Read:

Write and Read from Database.
Add to with uncommitted data to.
Copy on Write.

Commit and Updates/Writing.

Write & like proxy use. When
commit proxy will tell all ready
& value change.

Proxy vs check access.

Check vs for change who.

But only bkt change.

So connect to who Pts & backed pt in
call to who has.

Internally this is obj call who pts child to
anybody / C++ / C# etc

Wrapper vs Proxy

Lec 6

Threads using C# and .NET

Threads: Concurrent Vs Parallel

OS vs scheduling algorithms.

Process Vs Thread

Communication
not local
sharing not local

Eg Word, Excel 12 process but not concurrent
thread communicate via inter proc.

1 Main Thread and no other thread so for
parallel and no dependency. 1 Main Thread
and the job bind.

Eg choose vs multiple process.

1 Job = 1 process if 1 Job by
no dependency.

Eg Window box to job box.

From many to single Thread use.

4 DB 14 DB re transfer. Both excls.
10 year record. By single thread.
Roll back b/w no gya.

In chkd syste we stayd not require
Thread.

Multithread use to parallel n thao
problem is deadlock may occur.

Synchronous Vs Asynchronous

Part to bnd kerny of bnd to no
1 hi thread re bnd.

Dependency bnd k hi like download
ad browsr.

Multithread to thread chinty.
No of Thread are OS dependent.

UI is responsiveness k hi like thread.
Dependency reone kerny k hi
thread.

Time, UI responsiveness, Multithreading

danger: Race condition
Dead lock

Resource dependent dead lock
Race condition → read ad write
Condition pnts for light to wri
from thi

Different thread or kernel
IO / Delegate / System Thread

System Thread of thread generate

Thread class Method

- i) Is alive : check if that stop or active
- ii) Is Background : Background / foreground thread
- iii) Thread to use by std::this_thread
- iv) Thread ki priority

OS ki process ki highest priority
Manually thread set k hi thy th
you can give priority.

Syst. Thread message use

Thread mT = new Thread(new ThreadStart
(WorkThreadAction));

mT.start();

Only pass object WorkThreadAction.
Wrapper class.

Wrapper class: I can see difference no pack.
I class to diff class we wrap.
1 obj " " obj " wrap.

start by I new thread create

Does thread parallel we work so
content can differ.

Main Function Main Thread pr
WorkThread Action also function pr

mThread.join() wait Main Thread &
With child Thread complete to do.

mT. IsAlive
mT. Suspended

check because suspended thread to database
suspend with for safety.

start() → start Thread
suspended() → Stop
resume() → Restart
sleep() → Tie define
Abort() → generated Stop

Tie stop/suspended / ^{terminated} abort totally bind

During Thread use exception hardly
b/c bkt type & error.

- i) Lock keyword
- ii) Monitor class
- iii) Monitor class
- iv) Inter lock class

Lock Signal

critical section we can wait & go.
acquire / release

Monitor:

Monitor . Enter acquire
Monitor . Exit release

Multiple can be many.
Exception in critical obj.

Monitor is like lock

Monitor . pulse all done then no
notify . via notification deni
no app pl depend.

lock use if pulse is short time

Mutex:

Wait one (),
Release Mutex ()

Like like / Read only / write only
lock for critical section

Interlock class:

Traversed is for +1
Devered is for -1

Y2 is like the Lock Manually.
If we locking already implemented.

Method Impl:

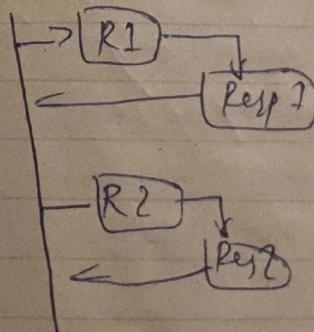
Function Method to sequential in Multi
thread.

[Method Impl]

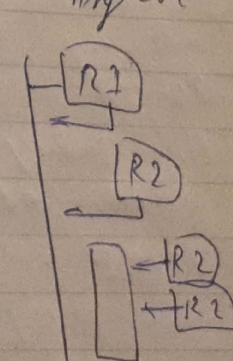
Synch / Async:

synchronous

1) Sequential



Asynchronous



Asynch: code wait with sets.

Eg Egg and toast busy egg busy
the 2 toast busy.
I complete the steps by
Sequential / Synchronous
OR

I water Concurrent / Asynchronous
par drink

OR
2 cook 1st to Multiple Thread

Multithread:

people note the toast is
sequential / Synchronous test is

can also divide a 1st ch. is
Concurrent / Asynchronous.

2 cook 1st to to Thread
It is also Asynchronous Thread

key acquire \rightarrow available thread per par sets has
word await \rightarrow key go

Initially Sequential.

Main Thread wait key to use
Asynchronous.

Set of Available Thread pool (Thread Pool)

Refrence to acquire by 1 thread
or multiple threads.

Lec 7

Assignment 2 Explanation

Project:

Extended

Assignment 2

Q1) Service do Q1 of Assignment 1 call "process" & though .exe file execute every 5 minutes

Service will run after 5 min.
Windows Service we write R Timer to self

Q2) Process ki joga class library.
Class Library include only some code of party.

A1 Q2

(23) → History folder make
Q2 of A1
n-1 files below it need latest
copy on location (ie structure)
Folder ka structure copy only

1 XML we say script in Q2 A1
Most recent -> to cut and paste file.

Folder level copy paste
n-1 File level cut and paste
 after every 15 min

File and Folder, Directory make classes
depth first.

(most recent)
& files will be file cut and paste

Q4) → History files pe ka ka lha (Q2 files)
1 Folder we multiple script.
Hence script & catalog file.

XML to json convert.

pehli create and then append

- 1 json file script level pe
After history write delete it.
json is m (no of script).

Work on archive Folder

Script level pe ka ka mail.

- dll class library for project
- (Q1) print code class AIQR place
and add reference
- (Q2) IIS will be 2 project that have AIQR

WCF (Windows Communication Foundation):

2nd SOAP based web service.

Object Oriented → Component Based → Service Oriented

The challenge:

In organization we diffrent OS so it's hard.
The code by developer and diffrent language.
So we use web services.

Aspx web services still don't support.
Aspx support HTTP or HTTPS protocol
" use XML and use SOAP. encodig

Ex Within organization and web service
anti TCP needed and use
Binary.
So Aspx will change
as Above use HTTP at TCP
" use XML at Binary

2 projects team have proxy.
so use WCF.

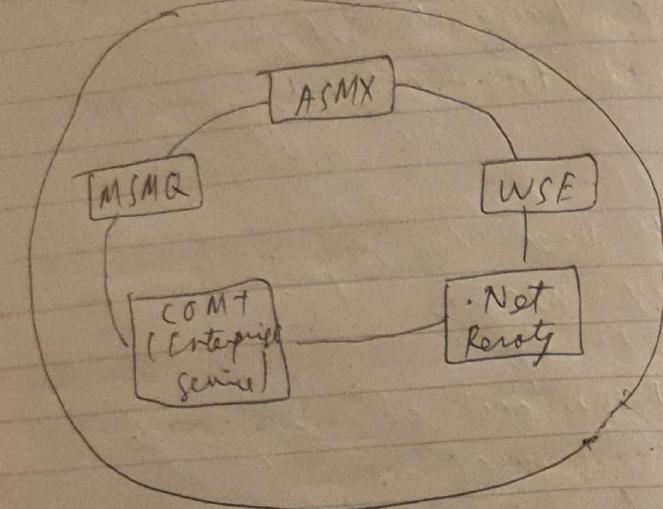
Diffrerent protocol and encodig style is
the use WCF.

WCF can connect TCP, HTTP etc
interoperation.

WCF is SOAP based is used:
barley and security. SOAP we do all
that job for us.

Deployment time is greater
coding is easy

WSE is security. ASMX is better for



MS MQ is like sorting

Service and Client:

Data to transfer is called message.
2 diffet endpoint like HTTP, TCP
To service open multiple endpoint
client can pick one to communicate
in meth.

Endpoint = ABC	
Address	Birdy
where	How

7 layers of OSI layer

WCF architecture: Message Routing:

Address Transport Layer

Birdy Encoding style
Raw, XML

No code only configuration

Contracts no methods exposing to

Address:

URL

From file

Contract:

OOP contract is Interface.

Class can implement interface is also contract.

3 Types of Contract:

i) Service Contract:

No method to expose any
business Interface &
start re [Service Contract] interface.

[Operation Contract] Method expose
to world. i.e. client can call.

Interface & any method implement
even expose with this interface.

Composite Type is data type user
defined data type.

SOAP ne data type ko pass
kt, ity : SOAP.

But user data type nahi pass SOAP ko.
So we use Data Contracts.

ii) Data Contracts:

[Data Contract] on top of user
defined data type.

So Data Contracts by user 'data type'
SOAP ne hi jaga.

SOAP 2 pc contracts over HTTP
SOAP: further info send. object ki
info send. but si info pass.

REST re method at type.

ASMX ne customization nahi hai.
WCF ne the ability kia ke harne sein body ka
we have multiple
header and body ne kia daikin.

Ways to talk:

Client & pass server ki IP hai.
Server & pass IP after socket connection

ASMX client request and server respond.

WCF has 3 ways

i) One Way:

ii) Request Reply:

iii) Duplex:

Reply "latter" ad on backend
channel
[call back - style]

ASMX ne 3rd nahi hai.

Lec 8

WCF is SOAP based.

WCF has 3 ways to talk

ASMX has only 1 [Request Reply]

1 way : Server reply directly

Duplex : Server client ko communicates but
first client subscribe
Service Contact:

i) Address is url, port, extension (.svc)
ii) Service Contact jo method expose kraye.
Interface ph jaaen. OOP ne contact
is interface. Interface expose jis par
[Service Contact]. [Operation Contact]
method ko expose keta jaae kya & type.
Implemented class is in Service.

Web Method only k add definition
OperationContract ne implementation in service.
But All methods need to be implemented
either it is not exposed or not.

Implementation is in service.

Service Contact is Request Respond by default
[OC (Is OneWay = true)] now it is I way.

I way ne response k liye wait nhi
karta ie asyre wala kam.
client wait nhi karta ie
connection jo hai wo wait nhi karta
response ka.

In case of void function.
do I way so Main() not wait.
Server pr kam karta raha hai.

Double Asymmetric:

call back, Delegate, Fired function

[serviceContract (session = true ,
callbackContract = typeof (IentRents))]

Client implement function rather than service.

WCF bana direct bn jati
ASMX k liye empty the add.

.SVC is in older | .svc in new
interfacer

ASMX debug by execute browser ke
selected ki list.
WCF debug is
sue select add in . Desktop client use.
WCF test client. For testing.

3rd party API like Postbox.

primitive data type in SOAP.
Composite Type is user defined. So corner
ko story k liye data contract use.

[Data Contract] is use for user define
data type. It is optional if all
primitive are used.

client / service web pr to port od IP change.
if interprocess process IP ie Instance and
as subscriber

Progress server call ad
client abhi gives its instance id subscribe.
Progress Report call by client.

Response R like client ko implement
rakhni hai. Agar client implement
nhi to respond nahi hoga.

Alone is hard to code.
Duplex in services.

Data Contract:

Message Contract:

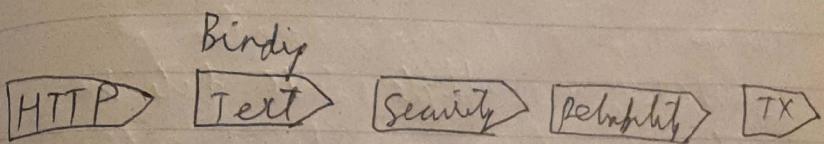
Defines mapping b/w the type
of a envelope.

ASMX SOAP ko modify nahi
WCF " " " ke mtlb nahi.
Customization header etc.

[message contract]
[message Header]
[message Body] → customize SOAP
Header and Body
WSDL banti hai expose function ki.

Bindings:
Configuration leni hai.
Contract ke code.

- 1) Transport (Protocol decide)
- 2) Encoder
- 3) Protocol (Security, Reliability, TX Rate)
decide keli



SOAP nahi XML ke chahi.

WCF sys is SOAP based ie response in XML
WCF restful is response in JSON

Body Standard:

- 1) ASMX = Basic HTTP Body
- 2) Net TCP Body by TCP protocol
per wsdl

Defig Endpoint:

```
< endpoint address = "Calculator"  
        binding = "basicHttpBinding"  
        contract = "Icalculator"
```

/>

if we
1 WCF re multiple SVC file br
stati br.

wept at 2m.
so in it we use Body Configuration

```
< body configName = "Body1" >
```

====

</ body >

WCF Summary:

ASMX host on IIS or IIS express or

WCF host on IIS, IIS Express, Windows or
etc.

Lec 9

Schedule + Thread work is overhead
of multi threading.

Reflection in .NET:

Reflection has many advantages and disadvantages. Mostly it is not used. Mostly it's executable file (.dll or .exe).

Compile to MSIL/CLI in .dll or .exe.
In 2nd/3rd week review.

Reflection & through runtime per metadata of class file.
eg class file properties, methods,
parameters etc & like reflection
per classes. Mainly runtime per
metadata file.

eg student class has some user reflection
in form like per class pair such
as name & marks, constructor,
method etc.

- 1) Get reflected data
- 2) Runtime per dynamic method can point to runtime per
hai i.e. class base static
"generic" code
- 3) "Dynamic" data type
- 4) Dynamic is benefit with reflection.

.Net Execution Model:

CLR & through execute.
IL has 3 types. i) DLL info version
ii) actual code
iii) Meta data

Reflection use Intermediate language.

Disadvantage is Reflection of C#,
Visual Basic etc file type. This is because
file type CIL use.

Common Type System Map Data type.
Reflection understand CTS so C# to
VB it can understand.

Meta Data : Type Info at Runtime

[Serializable] is attribute.
class to System.Type pr.

System.Type pr iterate ad 166
each mil if go.

a constructor type System.Type.Constructor
by nical for go.

Getter/Setter in _____
fields by variable.

So if .dll to CTS then gall
info nical stky bar.
↓ in list

Code:

using System.Reflection

Typeof and GetType are same.

List of constructor etc give.

Reflection is used to convert to JSON
before 4.0. 4.0 was using
Java Script Serializable

Reflection is ~~fast~~ slow as file sys read.
Reflection object (MethodInfo) is static pr read.
Reflection give security.

Reflection (System.Type)

Provides access to metadata for any
.NET type.
Retrieved by System.Object.GetType()

Member info is parent class.
Method info is list of Method.

Already bni for classes bni.

In Reflection (a code a nba hui Niz2 re)

Reflection:

Affably but many modules in namespaces. Can be our namespaces.

Namespaces can have class, struct, interface etc. Constructor bhi ho skte but in class

Affably \rightarrow Modules \rightarrow class \rightarrow constructor
can be vice versa in top down
and bottom up.

Namespace · Class · Function Name

If I say I class I replace me I bar.
can replicate if namespace change.

Code:

All provided.

Affably to merely we load previous
parameters.

.Net affably ie Merged code can use
in reflection.

reflection can regenerate code though
affably.

So Reflection will be sort of
encryption. Sort of as CLR language
etc but regenerate no. 3rd parties
or .Net do this. ie change the code
to K CLR language sky.

Code

namespace is Employee.

Class Employee

Function is class.

class to obj create and via function
call.

Reflection // through [method reflection]
obj ref to the bhi call by reflection

Lec 10

Rest Vs SOAP

SOAP 2 Service ASMX, WCF bkt
detail jati. Web services bkt.
SOAP ne object pass.

If Method sy detail fetch.
ie Request. Duni zyada info deni
pti hai SOAP me. Method, Parameter
etc bkt information. So bkt sy
character / byte wali. Is data transfer.
Jitna zyada data utna bandwidth,
consumed.

using Rest the query is like URL.

Byte ki tarne ke rest better.
Rest human understandable.

SOAP ad XML ne different.
SOAP ne XML use.

→ Get /photobook/userDetail/1 2345 HTTP/1.1
Host: www.example.com
Accept: application/XML

Get/Post:

- i) Get ne hoi aur ne jata jyaj query string
HTTP. Post ne HTTP ki body ne jata
- ii) Data Fetch Get
Critical Data in Post
- iii) Query string ne data sed ki limit hoti
hai.
Post Get ne HTTP ki body ne jana coh hai.

Get → REST
Post → SOAP

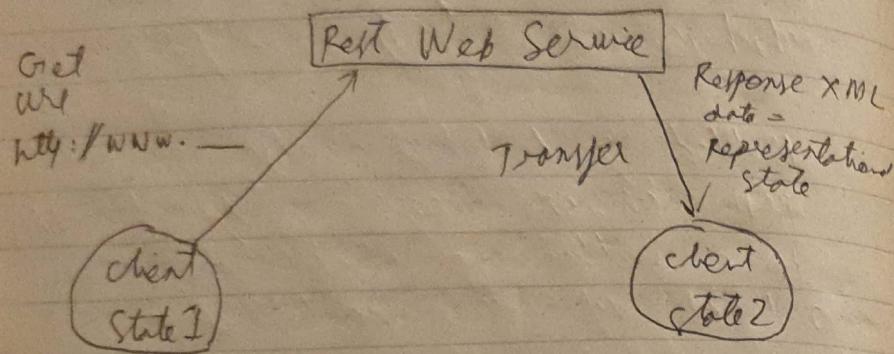
REST not only use JSON.

Set of Principle of REST:

- i) All chir url by accessible ha
changi ie unique identifier.
- ii) Methods to hint ke do jo sikh
pan common hoen. 2 type of Web API
1 ne method nae check or
2 & ne " " donot check.
- iii) Calls are independent ie stateless.
Statefull may be REST but not really.
- iv) Response type can be diff.
eg. JSON, HTML, XML response can
be given.
Ad also binary file of image.
- v)

What is REST:

REpresentation State I transfer



HTTP Request/Response As REST:

Request → Method / Resource

Restful Architectural Style:

Caching: browser server or data via -

99% client or cache

Age cache in cache or add new method to cache?

people modifies date check.
 but now commonly use Date time stamp.
 URL change to no new request in total
 treat it as one resource. If we use
 URL then new resource in total
 we use URL
 change then new resource in total
 treat. See because we change
 to problem.

resources fetched via URL.
 Cache using URL is benefit.

Set of constraints:

Idempotent Read

WADL:

Restful we set of rule is WADL.
 Rule, interface tell method etc.

It is only when Restful API is
 going to make.

Lee 11

Extension Methods:

eg we typecast it to check if int or not. IsNumeric function.

Commonly use function. Write at 1 place and then call it.

Util (static ^{function} in class) we apply function.

MyUtil . IsNumeric

Better to use variableName . IsNumeric ()
but not allow as variable name is
stg. To function to stg. class we
cannot apply ga.

Here introduce Extension Method.
without override class add method in it.

this keyword is use to tell it is
extension method next it tell stg
class to extension method.

static class ExtensionMethods {
 static method use (with this keyword)
 within class thi extend whi kewi pe thi.
 recorded method is not yet as compiler
 k liye mustik . Extension Method used
 hai to use two name by object or
 pe dot use . Compiler tie ghan.

LINQ jo hai wo extension method
pe bra hai.

Pehla parameter is his class we extend
other parameter can be core repeated.

Eg FP ko sealed keda to extend whi
kr sakte but we can use
Extension Method ..

I tie 1 method 1 class pe extend.

Named and Optional Arguments.

eg 3 parameter accept . to 3 parameter
if value does not fit
Method (1, "HW", 2).

Optional Method parameter use .

, strg optional = "def str",
int optional = 2.

Optional parameter should be on right side
i.e at end. After optional
nonoptional parameter can not
be done.

Method (1, "", 3) issue 1, 3rd
value only pass then Named Argnt.

Named Argument:

Method (1, optional1; 3);
parameter name

default keyword has also case.
optional str, int etc.

Named Argnt we issue interplay
(IP, IPaa, to interplay via obj pa.
To print jpa str.

Optional always rightmost and use
bd fix value like a str.

if Method (1) issue is 1, 2 or 3rd
value parameter. So rightmost always.

Ref Vs Out:

Ref use output change method by
use for out.

Ref value pass at output.

Out " " may be but output not.

ref we assign and work han
cally by people assign them

ref pass and output bhi us variable
me.

Out need to be change in
function.

Multiple return is mostly han
using double is set. i.e tuple.