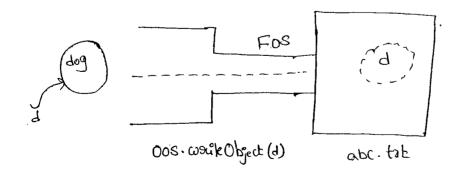
- Introduction
- Object Graphs in Servalization
- Customized Sevialization
- 4 Servalization w. s.t Zinheritana.

## Serilization:

- -> The polocess of worling State of an Object to a fire is Couled Sevialization.
- But Stouctly It is a powers of Converting an Object form € Java Supposited from to either file Supposited from on Netwonk Supported foom.
- Fikoutput Stateam and Object Output Stateam → By cusing --) ..)

We an achieve Servalization.



## leserialization.

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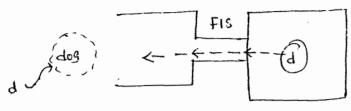
ن

- the process of Greating State of an object from a file is Called De Sexialization. http://javabynataraj.blogspot.com

→ But Strictly Speaking, It is not the process of Converting an Object form either network Supported form or fire supported from to java supported from.

→ By Using [File InputStoream] and Object InputStoream] Classes

We can achieve De-Sezialization.



OIS. FreadObject(d)

```
Class Dog implements Sesializable

int i=10;

int j=20;

Class Sesializable Demo

P s. v. m( ______) throws Exception

Dog di = new Dog();

FileOutput Stoream fos = new FileOutput Stoream ("abc.tat");

Object Output Stoream cos = new Object Output Stream (fos);

Oos. write object (di);
```

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```
File Input Stoream fis = New FIS ("abc. tab");

OIS ois = New OIS (fis);

Dog d2 = (Dog) ois oread Object();

8-0.pln (d2.i + "----"+d2.i);
```

- -- we can Penform Serialization only for Serializable Objects.
- An Object is Said to be Seoralizable iff the Coordesponding class implements Seoralizable intoxface.
- ) Serializable interface priesent in java.io package
- and doesn't Contain any methods, it is a mass kess intestace.
  - $\rightarrow$  7°F we asse toying to sessialize a non-Sessializable Objects we will get Run-time exception Saying Not-Sessializable Exception.

## tonansient Keywoord :-

)

- )

- )

- At the time of Serialization if we don't want to Serialize the Value of a particular variable to meet the Security Constraint we have to decrare those variables with "transient" to the tegorond.
- → Ot the time of Servialization JVM ignories original value of transisent variable and Saves default value.

### tonansiant Vs Static :-

- Static variables are not part of Object hence They won't participate in Serialization process. Due to this declaring a Static variable as transistent there is no impact.

## tonansisent Vs final:

I final variables will be participated into Servalization directly by their values then a declaring a final variable with transistent there is no impact.

Summary :-

	<b>.</b>
%P	•
10 20	) ) (-
0 20	`
10 0	; ; ;
0 20	) () ()
	10 20

# Object Graph in Sescalization!

∋

```
when even we are trying to Sercialize an object the Set of all objects which are seachable from that object will be Sercialized automatically this group of objects is called object Graph
```

Jn Object Graph every object should be Serializable otherwise we will get not-Serializable - Exaption:

Object Output Gream oos = new hupbjewatherpotentible graph gom; 392 of 401.

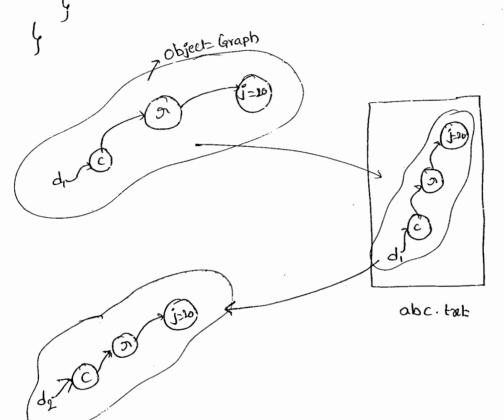
```
Cy.
      imposit java-10-+.
      Class Dog implements Sezializable
         Cat c= Dew Cat();
       Class Cat implements Sexualizable
          Rat 91 = new Rat();
       Class Rat
                   Propheroents Sestalizable
          int j = 20;
      Class Socialize Demo 2
        P.S. v.m (Staing [] asys) throws Exception
           Dog d= Daw Dog();
           Fre Output Stream - Fos = New Filout put Stream Caba sead;
```

005. write Object (d);

FileInputStoream fis = new FileInputStoream ("abc-sor").
Object=InputStream ois = new Object=InputStream (fis);

Dog di = (Dog) ois . Dread Object ();

S.o.pln(di.c.or.j); //20



→ En the above poog. When even we are Serializing a Dog Object automatically Cale & Rate Objects will be Serialized. because these are the part of object graph of dog.

→ Among dog, Cat & Rat if atleast one class is not Serializable

Then we will get Not Seriable Exaption.

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## Customized Seolalization:

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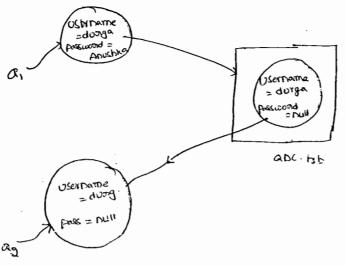
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)

 $\mathcal{L}$ 

)

```
- In the default Serialization there may be a chance of loss of information
 because of transient Keywood.
Ex! class Account implements Servializable
        Storing assertance = "duoga";
     transient Storing passwood = "anushka";
     Class Scallize Demos
       P.S. V. m (Storing [] asys) throws Exception
         Account a = new Account();
         S. o. plo (a, . username + "----" a. passurond); duoga ... anoshka
         File Output Stoream fos = New File Output Stoream ("abc. sex")
        Object Output Stoream oos = new Object Output Stoream ( Pos).
         oos, write Object (a);
        File Input Stoream Pis = new File Input Stream ("abc. Sea").
        Object Input Stream ois = new Object Input Stream ( Pis);
       Account a2 = (Account) great Object ();
       Sco-pin (az. username + "----"+az. password);
```



- To the above Example before Serialization Account Object Can provide,

  proper username & password But after description Account Object

  Can't provide the Coogrinal password. Hence during default Serialization.)

  There may be a Chance of loss of information due to transient key word.

  We can recover this loss of information by using Customized Scription.)

  We can implement Customized Serialization by using the following & method.

  (i) private void correct Object (Dos as) throws Exception

  This method coil be Executed automatically at the time of Serialization.)

  it is a call back method.
  - This method will be Executed automatically at the time of descriation it is a caliback method.
- The above 2 methods we have to define in the Commesponding U

  Class of Serialized Object.

```
ex:-
    imposit java. io .*;
    Class Account implements Socializable
              asestrame = " dunga",
       transient Stering pwd = anushka",
      Poévate Void waste Object Cobject Outpots Gream as) throws Exaption
        OS. defaultWorte Object ();
      String epud = (String) is . snewdobject();
       Pwd = epwd · Substacing (3),
          Cust Serialize Demol
    P-S.V.m (Stockye 1 args) throws
                                         Exaption
      Account as = new Account().
      S.o.pln (al. Username+ " --- "+ a, pwd);
     File Output Stoneam for = new File Output Stoneam ("abc. seor").
      Object Output Stream cos = new Object output Stream (fos);
      oos. with Object (a1);
     File Input Stream fis = new File Input Stream ("abc. ser");
     Object Input Stream
                       Ois = new
                                     Object Input Gream ( fis);
```

Accords as = new (Account ois http://jayabynataraj.blogspot.com 396 of 401.

 $\Rightarrow$ 

);

```
S. o. pln (az. useanamz + 1 --- 1 + az. pwd),
                     USernam =durga
                     pwd = anushka
                                            (123 anushka
                                              JSername
                                             pod = Dull
                    (123 anushka
                 USernam = dunga
  Seovalization work Znheoutance:
G&1:-
-> 28 The papient class Proplements Sescalizable then Every child
  class is by default Sexualizable i.e., Sexualizable nature is inheriting
                                                                             )
         Pagient to child (P+c).
          Class Animal Amplements Sescalizable
  ep!-
              int x=10;
           Class Dog extends Animal
                int year;
                                               http://javabynataraj.blogspot.com
```

-> we can Servalize dog Object eventhough dog class doesn't implement Servalizable interface Explicitly because it's parent class Animal is Servalizable.

#### Caleg:

Eventhaugh painent class doesn't implement Sevializable if it the child is Sevializable than we can Sevialize child class object. At the time of Sevialization JVM ignoses the original values of instance variables which are Comeing from Non-Sevializable parent & Stoone default values.

At the time of desevialization JVM checkes is any parent class is non-Sevializable on not, JVM coneates a Seperate Object for every non-Sevializable parent & Share its instance variables to the Current is object.

for this Jum always calls no arguement Constructor of the non-Serializable parent. If the non-Serializable parent doesn't have no appropriement Constructor then we will get Runtime Exaption.

Ex:-

imposit java io .\*;

Class Animal

int =10;

-Animal()

Sophic - Anima Construction Caued 1.
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```
Dog extends Animal implements Sescializable
   int j=20;
   Dogo
      S-o pln ("Dog Construction Called");
        Sezialize Demo 6
Class
   P. S. V. m (Stronger args) throws Exception
      Dog d = New Dog();
      di=888;
      d.j = 999,
                                                                      9
    FileOutputStream fos = new FileOutputStream ("abc-sent)
                                                                      .)
     Object Output Stream cos = new Object Output Stream (fos);
                                                                       )
                                                                       )
      oos woodkObject(d);
     S.o. PIn (" Desemalization Started"):
                                                                      )
                                                                      •
     File Input Stream fis = New File Input Stream ("abc. Sen").
                                                                      .)
                                                                      <del>()</del>
     Object Proposition ois = new Object Proposition (fix);
                                                                      0
      Dog di = (Dog) ors, snead Objects ();
                                                                      \bigcirc
        S.o. plo(d): + --- + diff; http://javabynataraj.blogspot.com
                                                                   399 of 401.
```

On! - Animal Constructor Called

Dog " "

Designalization Started

Animal Constructor Called

10 ---- 999

