Java Exception Handling & Applets

Presented By

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Some Interesting Facts about Java

- The initial name of java was “Oak”. it had been modified to Java by Sun’s marketing department once they found that name was already registered for a computer company.
- Java is the second preferred language and is incredibly popular among the developers.
- Java does not support the concept of pointer.
- Java is used by 95% of the companies as their primary language. Which is much more than C and other languages.

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- The **Exception Handling** in Java is one amongst the powerful mechanism to handle the runtime errors so traditional flow of the program will be maintained.
- Applet is a special type of program that is embedded in the webpage to generate the dynamic content.

Exception Handling

Exceptions in Java

- An exception is an unwanted or unexpected event, which occurs during the execution of a program i.e. at run time, that disrupts the normal flow of the program's instructions.

```
public class A{
        public static void main(String args[])
        {
                int a=2, b=0, c;
                c=a/b; //Exception
                System.out.println(c);
        }
}
```

```
C:\Users\Tan\Desktop>javac A.java

C:\Users\Tan\Desktop>java A
Exception in thread "main" java.lang.ArithmeticException: / by zero
        at A.main(A.java:5)

C:\Users\Tan\Desktop>_
```

Hierarchy of Java
Exception classes

Types of Exceptions

Types of Exceptions

Exception Handling Java

- Exception Handling mechanism follows a flow which is depicted in the below figure. But if an exception is not handled, it may lead to a system failure. That is why handling an exception is very important.

Exception Handling Java

try	The "try" keyword is used to specify a block where we should place exception code. The try block must be followed by either catch or finally.
catch	The "catch" block is used to handle the exception. It must be preceded by try block

finally	The "finally" block is used to execute the important code of the program. It is executed whether an exception is handled or not.
throw	The "throw" keyword is used to throw an exception.
throws	The "throws" keyword is used to declare exceptions. It doesn't throw an exception.

Exception Handling Java(Example)

```
package ExceptionHandling;

public class Exception {

    public static void main(String
    args[]) {

        try {

            int c=100/0;
```

```
C:\Users\Tan\Desktop>javac Exception.java

C:\Users\Tan\Desktop>java Exception
Exception caught

C:\Users\Tan\Desktop>_
```

```
            }catch(ArithmeticException e) {
                System.out.println("Exception caught");
            }
        }
    }
```

Java Applet

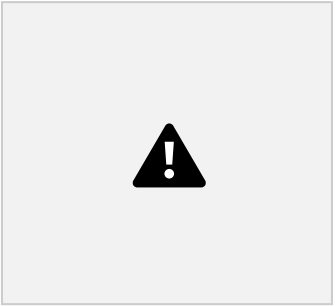
What is Applet?

- An **applet** is a Java program that runs in a Web browser.

- An applet can be a fully functional Java application because it has the entire Java API at its disposal.

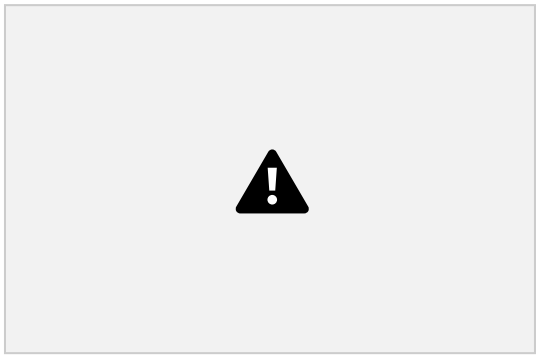
Advantage & Drawback of Applet

- **Advantage of Applet**
  - It works at client side so less response time.
  - Secured
  - It can be executed by browsers running under many platforms, including Linux, Windows, Mac OS etc.



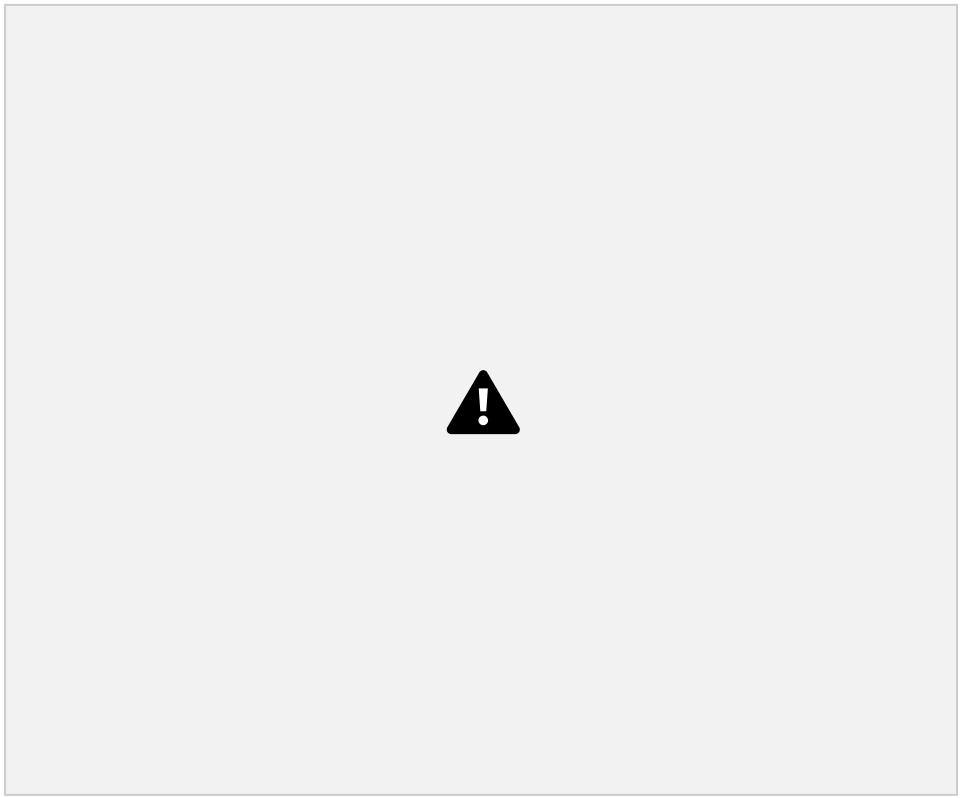
- **Drawback of Applet**
  - Plugin is required at client browser to execute applet.

Some Important Points on Java Applet

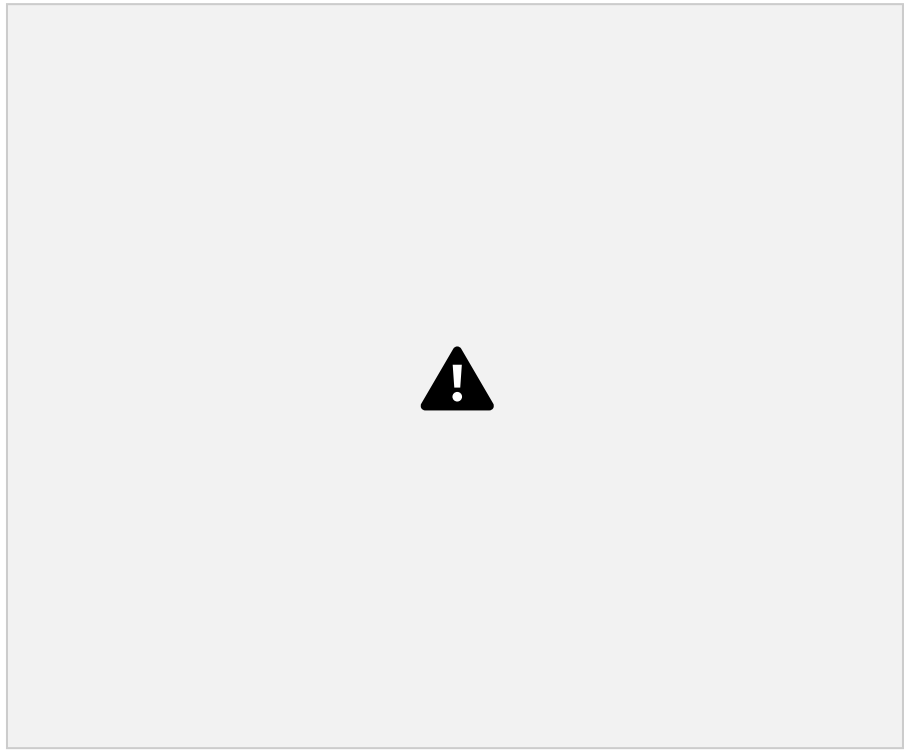


- All applets are sub-classes (either directly or indirectly) of **java.applet.Applet** class.
- Applets are not stand-alone programs. Instead, they run within either a web browser or an applet viewer. JDK provides a standard applet viewer tool called applet viewer.
- In general, execution of an applet does not begin at main() method.
- Output of an applet window is not performed by System.out.println(). Rather it is handled with various **AWT** methods, such as drawString().

Lifecycle of Java Applet



Lifecycle methods for Applet



Applet(Cont.)

Lifecycle methods for

A "Hello, World" Applet

HelloWorldApplet.java HelloWorldApplet.html

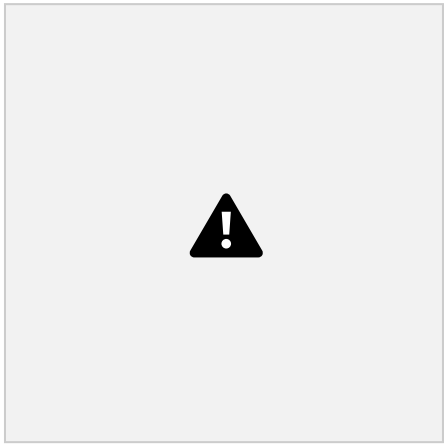
```
import java.applet.*;
import java.awt.*;

public class HelloWorldApplet extends Applet
  { public void paint (Graphics g) {
    g.drawString ("Hello World", 25,
```

```
    50); }
}
```

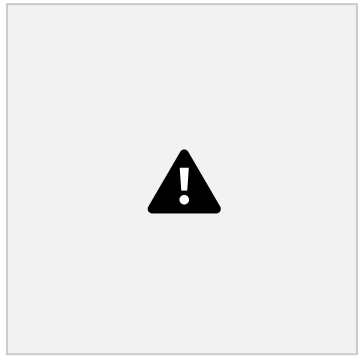
```
<html>
  <title>The Hello, World Applet</title>
  <hr>
  <applet code = "HelloWorldApplet.class"
     width = "320" height = "120">
  </applet>
  <hr>
</html>
```

Conclusion

- Exceptions are used to improve error efficiency.
- The **Exception Handling in Java** is one of the powerful mechanism to **handle** the runtime errors.
- Applet is a Java program that can be embedded into a web page. It runs inside the web browser and works at client side.



References



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Thank You