

Thread pada Java

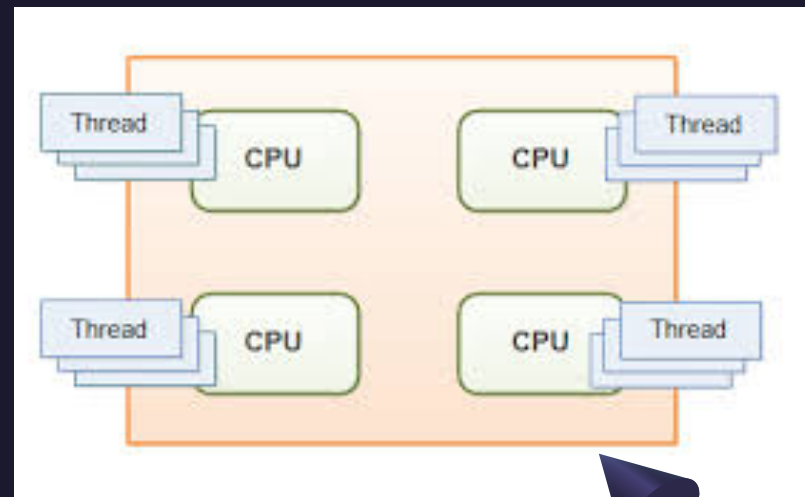
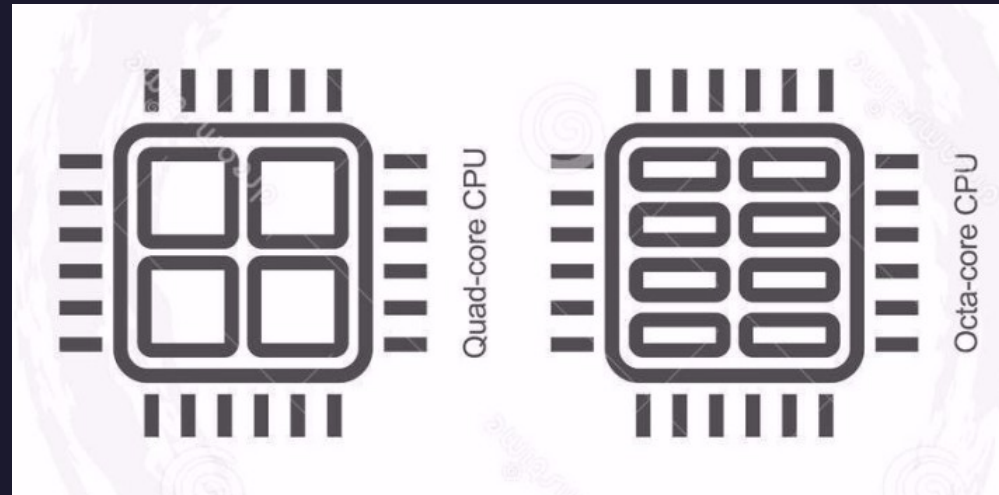
Pemrograman Berorientasi Objek

- PSTI FT Unram -



THREAD

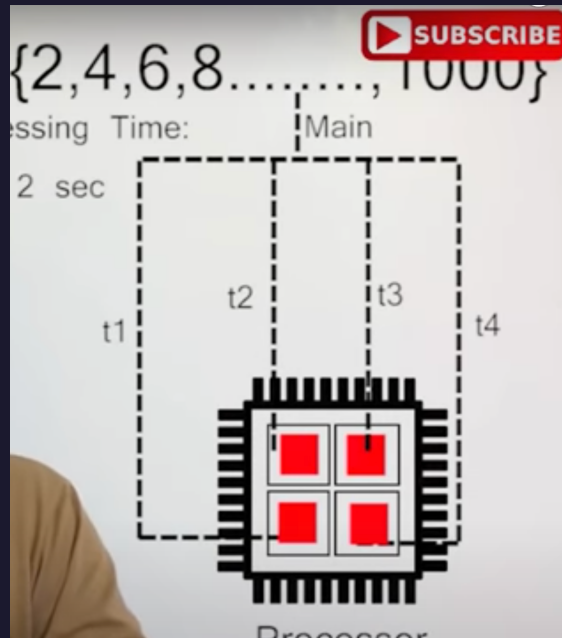
- Unit of Process
- Why Thread ?



THREAD

- By Default : Pada setiap Program java yang kita buat terdapat sebuah Thread
- Games, Everything is running in same times.

```
Game : Achievement Score : Minutes Played  
Fallout 4 : 24 : 56  
Exception in thread "main" java.lang.NullPointerException  
    at JavaProject.main\(JavaProject.java:50\)
```



THREAD



- <https://docs.oracle.com/javase/7/docs/api/java/lang/Thread.html>



Contoh Tanpa Thread

```
class Hi
{
    public void show()
    {
        for(int i=1; i<=5; i++){
            System.out.println("Hi");
        }
    }
}

class Hello
{
    public void show()
    {
        for(int i=1; i<=5; i++){
            System.out.println("Hello");
        }
    }
}

public class ThreadDemo
{
    public static void main(String[] args) {
        Hi obj1 = new Hi();
        Hello obj2 = new Hello();

        obj1.show();
        obj2.show();
    }
}
```



Contoh Dengan Thread

```
class Hi extends Thread
{
    public void run()
    {
        for(int i=1; i<=5; i++){
            System.out.println("Hi");
            try {Thread.sleep(500); } catch(Exception e){}
        }
    }
}

class Hello extends Thread
{
    public void run()
    {
        for(int i=1; i<=5; i++){
            System.out.println("Hello");
            try {Thread.sleep(500); } catch(Exception e){}
        }
    }
}

public class ThreadDemo
{
    public static void main(String[] args) {
        Hi obj1 = new Hi();
        Hello obj2 = new Hello();

        obj1.start();
        try {Thread.sleep(100); } catch(Exception e){}

        obj2.start();
    }
}
```



Bagaimana kalau perlu multiple inheritance?

`java.lang.Runnable`  `TaskClass`

```
// Custom task class
public class TaskClass implements Runnable {
    ...
    public TaskClass(...) {
        ...
    }

    // Implement the run method in Runnable
    public void run() {
        // Tell system how to run custom thread
        ...
    }
    ...
}
```

```
// Client class
public class Client {
    ...
    public void someMethod() {
        ...
        // Create an instance of TaskClass
        TaskClass task = new TaskClass(...);

        // Create a thread
        Thread thread = new Thread(task);

        // Start a thread
        thread.start();
        ...
    }
    ...
}
```



Contoh Dengan Interface Runnable

```
class HiInt implements Runnable
{
    public void run()
    {
        for(int i=1; i<=5; i++){
            System.out.println("Hi");
            try {Thread.sleep(1000); } catch(Exception e){}
        }
    }
}

class HelloInt implements Runnable
{
    public void run()
    {
        for(int i=1; i<=5; i++){
            System.out.println("Hello");
            try {Thread.sleep(1000); } catch(Exception e){}
        }
    }
}

public class ThreadDemoInterfaces
{
    public static void main(String[] args) {
        Runnable obj1 = new HiInt();
        Runnable obj2 = new HelloInt();

        //Liat https://docs.oracle.com/javase/7/docs/api/java/lang/Thread.html
        Thread t1 = new Thread(obj1);
        Thread t2 = new Thread(obj2);

        t1.start();
        try {Thread.sleep(100); } catch(Exception e){}
        t2.start();
    }
}
```

