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Java ExecutorService with strategy design pattern to execute concurrently & sequentially

Posted on December 9, 2014 by Arulkumaran Kumaraswamipillai

Java executor framework for running multi-threaded applications concurrently, sequentially, and with a strategy design pattern to switch between sequential and concurrent execution. 1. Running concurrently

```
package com.writtentest13;

import java.util.ArrayList;
import java.util.List;
import java.util.concurrent.Callable;
import java.util.concurrent.ExecutorService;
import java.util.concurrent.Executors;
```

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```

/**

 * Tasks are executed concurrently in a thread p
 */
public class ThreadExecutorMainCon  {

 private ExecutorService concurrentThreadExecuto

 public static void main(String[] args) {
  ThreadExecutorMainCon main = new ThreadExecuto

  // concurrent executor
  main.concurrentThreadExecutor = Executors.newC
                  // newFixedThreadPool(3)
  List<Callable<Boolean>> tasks = new ArrayList<

  // create dummy tasks
  for (int i = 1; i <= 5; i++) {
   tasks.add(main.createTask(i));
  }

  // submit the tasks to the concurrentThreadExe
  try {
      main.concurrentThreadExecutor.invokeAll(ta

  } catch (InterruptedException e) {
       e.printStackTrace();
  }

  System.out.println("Completed .........");

 }

 private Callable<Boolean> createTask(final int

  Callable<Boolean> task = new Callable<Boolean>

   @Override
   public Boolean call() throws Exception {
      System.out.println("Performing task " + i
      return true;
   }

  };

  return task;

 }
}


```

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The output will be

```

Performing task 1 on thread - pool-1-thread-1
Performing task 5 on thread - pool-1-thread-4
Performing task 4 on thread - pool-1-thread-1
Performing task 3 on thread - pool-1-thread-3
Performing task 2 on thread - pool-1-thread-2
Completed .........

```

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