Notebook

Last Edited: Apr 02

Report Abuse

Java: VirtualThreads and ThreadLocal

"Concept && Coding" YT Video Notes

```
ThreadLocal
• ThreadLocal class provide access to Thread-Local variables.
• This 'Thread-Local' variable hold the value for particular thread.
• Means each Thread has its own copy of Thread-Local variable.
• We need only 1 object of ThreadLocal class and each thread can use it to set and get its own
  Thread-variable variable.
         public static void main(String args[]) {
             ThreadLocal<String> threadLocalObj = new ThreadLocal<>();
             //main thread
             threadLocalObj.set(Thread.currentThread().getName());
             Thread thread1 = new Thread( () -> {
                 threadLocalObj.set(Thread.currentThread().getName());
                 System.out.println("Task1");
             });
             thread1.start();
             try{
                 Thread.sleep( millis: 2000);
             }catch (Exception e){
             //here we have main thread
             System.out.println("Main thread: " + threadLocalObj.get());
```

```
Remember to clean up, if reusing the thread
                                                                                          Output:
  public static void main(String args[]) {
                                                                                     null
                                                                                     pool-1-thread-1
      ThreadLocal<String> threadLocalObj = new ThreadLocal<>();
                                                                                     null
      ExecutorService poolObj = Executors.newFixedThreadPool( nThreads: 5);
                                                                                     pool-1-thread-1
                                                                                     null
      poolObj.submit(() -> {
                                                                                     null
          threadLocalObj.set(Thread.currentThread().getName());
                                                                                     null
      });
                                                                                     null
      for(int <u>i=1</u>; <u>i<15</u>; <u>i++</u>){
                                                                                     null
          poolObj.submit(() -> {
                                                                                     pool-1-thread-1
              System.out.println(threadLocalObj.get());
                                                                                     null
          });
                                                                                     null
                                                                                     null
                                                                                         Output:
public static void main(String args[]) {
   ThreadLocal<String> threadLocalObj = new ThreadLocal<>();
                                                                                          null
                                                                                          null
    ExecutorService poolObj = Executors.newFixedThreadPool( nThreads: 5);
                                                                                          null
   poolObj.submit(() -> {
                                                                                          null
       threadLocalObj.set(Thread.currentThread().getName());
                                                                                          null
       //my work completed, now clean up
                                                                                          null
       threadLocalObj.remove();
                                                                                          null
    Đ;
                                                                                          null
   for(int i=1; i<15; i++){
                                                                                          null
       poolObj.submit(() -> {
                                                                                          null
           System.out.println(threadLocalObj.get());
                                                                                          null
       });
                                                                                          null
                                                                                          null
```

