

종합설계프로젝트2

TEAM3

## Log Analysis of IT System based on NLP

자연어 처리(NLP) 기반 IT 시스템 로그 분석

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**|Presenter| 옥명주**

**|Team Member| 김보근 김나형 김다혜 옥명주 이현지**



**Check point**

**1. Project Overview**

- Necessity of Project promotion
- Overview

**2. Project Progress**

- Progress & Issue
- Java Thread Dump Analysis
- Write a Paper

**3. Project Schedule**

- Meeting & Schedule Management
- Gantt Chart

# 01

## Project Overview

- Necessity of Project promotion
- Overview

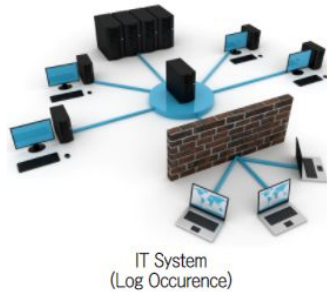
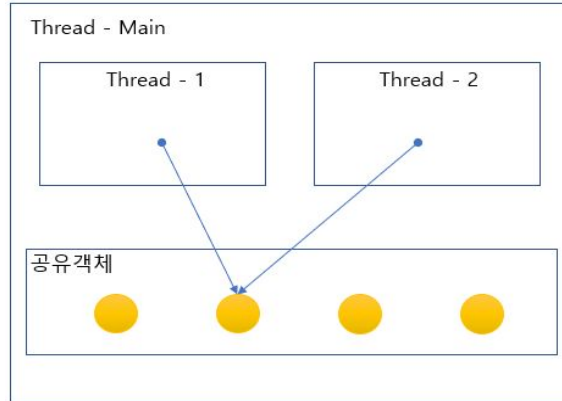
## 01\_1

# Project Overview - Necessity of Project Promotion

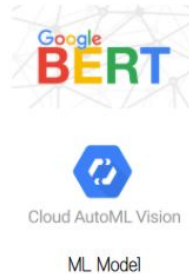


```
"\"pool-1-thread-1\" #113 prio=5 os_prio=0 tid=0x00007fc55c1b2000 nid=0x64c2 runnable [0x00007fc534686000]",
"  java.lang.Thread.State: RUNNABLE",
"    at java.net.PlainDatagramSocketImpl.receive0(Native Method)",
"    - locked <0x00000000c1c90308> (a java.net.PlainDatagramSocketImpl)",
"    at java.net.AbstractPlainDatagramSocketImpl.receive(AbstractPlainDatagramSocketImpl.java:143)",
"    - locked <0x00000000c1c90308> (a java.net.PlainDatagramSocketImpl)",
"    at java.net.DatagramSocket.receive(DatagramSocket.java:812)",
"    - locked <0x00000000c13c19b8> (a java.net.DatagramPacket)",
"    - locked <0x00000000c1c902b8> (a java.net.MulticastSocket)",
"    at org.jboss.modcluster.advertise.impl.AdvertiseListenerImpl$AdvertiseListenerWorker.run(AdvertiseListenerImpl.java:354)",
"    at java.lang.Thread.run(Thread.java:748)",
"",
"  Locked ownable synchronizers:",
"    - None",
""
```

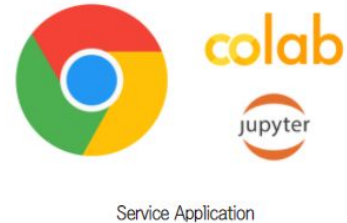
## 01\_1 Project Overview - Overview



→  
Data collection and processing



→



## 02

# Project Progress

- Issue
- Demo video

## 02\_1 Issue

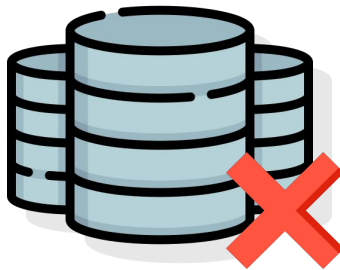
No	Task	담당자	상태	시작일	완료일	2022년 3월			2022년 4월				2022년 5월				2022년 6월
						2주	3주	4주	1주	2주	3주	4주	1주	2주	3주	4주	1주
1	주제 선정 및 역할 분담	공동	Doing	03월 07일	03월 14일												
2	계획서 작성	공동	Doing	03월 07일	03월 18일												
데이터 관련																	
3	IT 시스템 로그 데이터 선정	공동	to Do	03월 14일	03월 20일												
4	데이터 수집	김다혜, 이현지, 옥명주	to Do	03월 20일	03월 25일												
5	데이터 가공	김보근, 김나형	to Do	03월 26일	04월 08일												
머신러닝																	
6	모델 개발(AutoML)	김보근, 김나형	to Do	04월 09일	04월 22일												
7	모델 개발(BERT)	김다혜, 이현지, 옥명주	to Do	04월 09일	04월 22일												
8	논문 작성	공동	to Do	04월 23일	05월 12일												
응용 프로그램 개발																	
9	UI / UX 설계 및 기획	김다혜, 옥명주	to Do	05월 05일	05월 12일												
10	웹 애플리케이션 개발	공동	to Do	05월 12일	05월 26일												
11	Testing 및 수정	공동	to Do	05월 26일	06월 02일												

## 02\_1

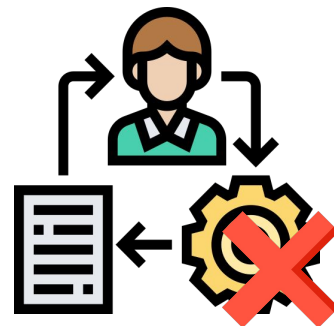
## Issue



No labeling



No more data



No model testing



## 02\_1 Issue : No labeling



덤프 분석 정리\_ver1.1 ☆ 📁 🔄

파일 수정 보기 삽입 서식 데이터 도구 확장 프로그램 도움말 몇 초 전에 마지막으로 수정됨

100% \$ % 0.00 123 기본값 (Ari... 10 B I S A

F2 fx

	A	B
1	패턴명	패턴예시
2	arjuna-1	<pre>"Thread-21" prio=10 tid=0x00007fdebe867000 nid=0x5e56 in Object.wait() [0x00007fdebe867000]   java.lang.Thread.State: TIMED_WAITING (on object monitor)",   " at java.lang.Object.wait(Native Method)",   " - waiting on &lt;0x00000000788c28d10&gt; (a java.lang.Object)",   " at com.arjuna.ats.internal.arjuna.recovery.PeriodicRecovery.doPeriodicWait(PeriodicRecovery.java:104)",   " at com.arjuna.ats.internal.arjuna.recovery.PeriodicRecovery.run(PeriodicRecovery.java:104)",   " - locked &lt;0x00000000788c28d10&gt; (a java.lang.Object)",   " ",   " Locked ownable synchronizers:",   " - None",</pre>
3	plainsocket-jgroups	<pre>FD_SOCKET acceptor,hornetq-channel,tal-eap64-khan-68-7185v/hornetq-channel" daemon prio=10 tid=0x00007f48c41a5800 nid=0x1781   java.lang.Thread.State: RUNNABLE",   " at java.net.PlainSocketImpl.socketAccept(Native Method)",   " at java.net.AbstractPlainSocketImpl.accept(AbstractPlainSocketImpl.java:398)",   " at java.net.ServerSocketImpl.accept(ServerSocketImpl.java:530)",   " at java.net.ServerSocket.accept(ServerSocket.java:498)",   " at org.jgroups.protocols.FD_SOCKET\$ServerSocketHandler.run(FD_SOCKET.java:104)",   " at java.lang.Thread.run(Thread.java:748)"</pre>
4	plainsocket-tomcat	<pre>"http-10.127.12.79:8080-Acceptor-0" daemon prio=10 tid=0x00007f48c41a5800 nid=0x1781   java.lang.Thread.State: RUNNABLE",   " at java.net.PlainSocketImpl.socketAccept(Native Method)",   " at java.net.AbstractPlainSocketImpl.accept(AbstractPlainSocketImpl.java:398)",   " at java.net.ServerSocketImpl.accept(ServerSocketImpl.java:530)",   " at java.net.ServerSocket.accept(ServerSocket.java:498)",   " at org.apache.tomcat.util.net.DefaultServerSocketFactory.acceptSocket(DefaultServerSocketFactory.java:104)",   " at org.apache.tomcat.util.net.JIoEndpoint\$Acceptor.run(JIoEndpoint.java:312)",   " at java.lang.Thread.run(Thread.java:748)"</pre>

was	spring	패턴	개수
no	no	<a href="#">quartz-1</a>	33
jboss	no	SocketInputStream-1	22
tomcat + coyote	no	coyote-1	27
jgroups	no	plainsocket-jgroups	18
jboss	no	jboss-3	13
coyote + catalina + tomcat + jasper + jboss	yes	plainsocket-jboss	12
no	no	quartz-1	22
tomcat	no	coyote-1	161
tomcat,jboss?	yes	jdbc.driver-1	11
tomcat, jboss?	yes	jdbc.driver-3	6
tomcat, jboss?	yes	jdbc.driver-4	7
undertow, wildfly	yes	egov-1	149
jboss	no	jboss-1	138
undertow, jasper	yes	spring-1	90
wildfly	yes	wildfly-2	127
jboss	no	jboss-2	21
wildfly	yes	wildfly-3	28
wildfly	no	wildfly-1	7
no	no	concurrent-1	6
wildfly	no	wildfly-1	7
jboss	no	jboss-1	13
wildfly	yes	wildfly-1	30

## 02\_1 Issue : No labeling

	A	B	E
1	file	stack	pattern
221	_EBS_MY	"state TransferExecutor-thread--p20-t27" #380 daemon prio=5 os_prio=0 tid=0x000000004d23000 nid=0x6cba waiting on condition [0x00007f7b9bceb000] java.lang.Thread.State: WAITING (parking) at sun.misc.Unsafe.park(Native Method) at java.util.concurrent.locks.LockSupport.park(LockSupport.java:175) at java.util.concurrent.SynchronousQueue\$TransferStack.awaitFulfill(SynchronousQueue.java:458) at java.util.concurrent.SynchronousQueue\$TransferStack.transfer(SynchronousQueue.java:362) at java.util.concurrent.SynchronousQueue.take(SynchronousQueue.java:924) at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1074)	idle
222	_EBS_MY	"transport-thread--p14-t7" #379 daemon prio=5 os_prio=0 tid=0x000000003635000 nid=0x6bd0 waiting on condition [0x00007f7ba1f50000] java.lang.Thread.State: WAITING (parking) at sun.misc.Unsafe.park(Native Method) at java.util.concurrent.locks.LockSupport.park(LockSupport.java:175) at java.util.concurrent.locks.AbstractQueuedSynchronizer\$ConditionObject.await(AbstractQueuedSynchronizer.java:2039) at java.util.concurrent.LinkedBlockingQueue.take(LinkedBlockingQueue.java:442) at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1074)	wildfly-4
223	_EBS_MY	"transport-thread--p13-t7" #378 daemon prio=5 os_prio=0 tid=0x0000000008b2c000 nid=0x6bce waiting on condition [0x00007f7ba1ece000] java.lang.Thread.State: WAITING (parking) at sun.misc.Unsafe.park(Native Method) at java.util.concurrent.locks.LockSupport.park(LockSupport.java:175) at java.util.concurrent.locks.AbstractQueuedSynchronizer\$ConditionObject.await(AbstractQueuedSynchronizer.java:2039) at java.util.concurrent.LinkedBlockingQueue.take(LinkedBlockingQueue.java:442) at java.util.concurrent.ThreadPoolExecutor.getTask(ThreadPoolExecutor.java:1074)	wildfly-4
224	_EBS_MY	"Connection.Receiver [172.17.22.100:9171 - 172.17.22.100:7800]-30,web.ebssw11-22-100-1" #377 prio=5 os_prio=0 tid=0x000000000a6c3000 nid=0x6bc0 runnable [0x00007f7b9bd6d000] java.lang.Thread.State: RUNNABLE at java.net.SocketInputStream.socketRead0(Native Method) at java.net.SocketInputStream.socketRead(SocketInputStream.java:116) at java.net.SocketInputStream.read(SocketInputStream.java:171) at java.net.SocketInputStream.read(SocketInputStream.java:141) at java.io.BufferedInputStream.fill(BufferedInputStream.java:246)	jboss-1

idle	2191
NaN	1216
tomcat-endpoint	567
khan	560
wildfly-4	441
empty	389
egov-1	175
coyote-http	160
jboss-2	154
daekyo-1	153
nio-1	144
wildfly-1	108
infinispan-1	99
wildfly-3	94
quartz	90
daekyo-2	80
timer	80
mysql-1	79
ibatis-1	67
spring-1	67
jboss-1	66

▲ pattern type

opennaru  
API

Administrator

나의 대시보드

WAS

Dashboards

Hosts

애플리케이션 그룹

대시보드

[O]ALL

Instances

eap74-21

eap74-22

서버 정보

애플리케이션

동계

JVM

데이터베이스

스레드 덤 분석

메모리 객체 분석

Search - Shortcuts / Ctrl + ...

Opennaru, Inc.

한국어 > | <

중 / WAS / 애플리케이션 그룹 / [O]ALL / Instances / eap74-22 / 스레드 덤 분석

실시간 요청 모니터링 Active Thread Controller

31 Ops  
0 QPS  
36u

Pending Requests

50

0

eap74-22

Satisfying Tolerating Frustrating

Q 스레드 덤 분석기 > 2022-04-13 10:55:09 (0D24AE87-7117-4954-906A-DC8C809463AF)

C III 검색 > 텍스트로 분석 URL에서 읽기 CPU T

#	Line#	Type	Name	State	URL	Duration	CPU T
1	70	Active Thread	① default task-20...	TIMED...	/testapp/slowtest2...	...	...
2	139	Active Thread	① default task-20...	TIMED...	/testapp/slowtest2...	...	...
3	208	Active Thread	① default task-20...	TIMED...	/testapp/slowtest2...	...	...
4	277	Active Thread	① default task-20...	TIMED...	/testapp/slowtest2...	...	...
5	346	Active Thread	① default task-20...	TIMED...	/testapp/slowtest2...	...	...
6	415	Active Thread	① default task-20...	TIMED...	/testapp/slowtest2...	...	...
7	484	Active Thread	① default task-20...	TIMED...	/testapp/slowtest2...	...	...
8	680	Active Thread	① default task-20...	TIMED...	/uss/umt/EgovUse...	...	...
9	692	Active Thread	① default task-20...	TIMED...	/testapp/slowtest2...	...	...

Record ID: 1 1-1 of 1

스레드 덤 목록

#	Created	Host	Instance	Level	UUID
1	2022-04-13 10:55:09	192.168.23.194	eap74-22	INFO	0D24AE87-7117-4954-906A-DC8C809463AF

텍스트로 보기 JSON으로 보기

```
{
  "created": "2022-04-13 10:55:09",
  "attach listener": {
    "isActive": false,
    "line": 4,
    "id": "0x00000000000000000000000000000000",
    "state": "RUNNABLE",
    "name": "Attach Listener",
    "stack": [
      "Attach Listener" #43579 daemon prio=9 os_prio=0 tid=
        0x0000000000000000 nid=0x3f8e waiting on condition
        [0x0000000000000000],
        java.lang.Thread.State: RUNNABLE",
        -- Locked runnable synchronizers:",
        -- None"
```

\" #98 daemon prio=5 os\_prio=0 tid=0x0000...  
waiting on condition [0x00007fc537972000...  
Thread.State: TIMED\_WAITING (parking)\"  
sc.Unsafe.park(Native Method)\"  
to wait for <0x00000000c1bd4d90> (a  
concurrent.Locks  
lueuedSynchronizer\$ConditionObject)\",  
  
concurrent.Locks.LockSupport.parkNanos(Lo  
\",  
  
concurrent.locks  
lueuedSynchronizer\$ConditionObject  
tractQueuedSynchronizer.java:2163)\",  
  
jca.core.connectionmanager.pool.idle  
erIdleRemoverRunner.run(IdleRemover.java  
\",  
  
concurrent.ThreadPoolExecutor  
(ThreadPoolExecutor.java:1149)\",  
  
concurrent.ThreadPoolExecutor\$Worker  
oolExecutor.java:624)\",  
g.Thread.run(Thread.java:748)\",  
  
ble synchronizers:",  
0000c1bd4ac8> (a  
concurrent.ThreadPoolExecutor\$Worker)",

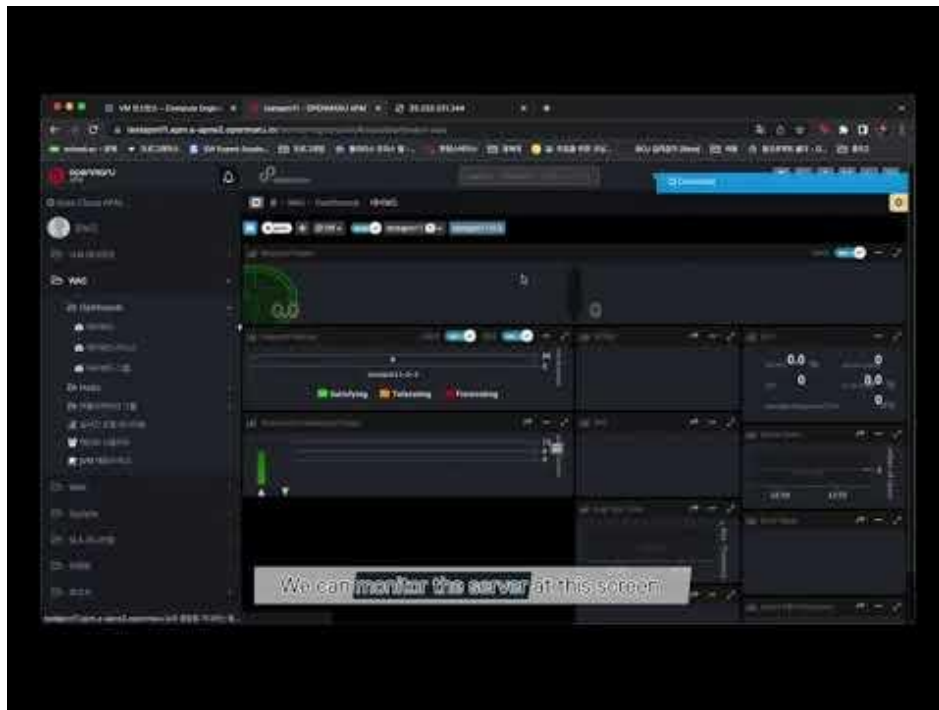
log data

## 02\_1

## Issue : Model Test Server



## 02\_2 Demo video

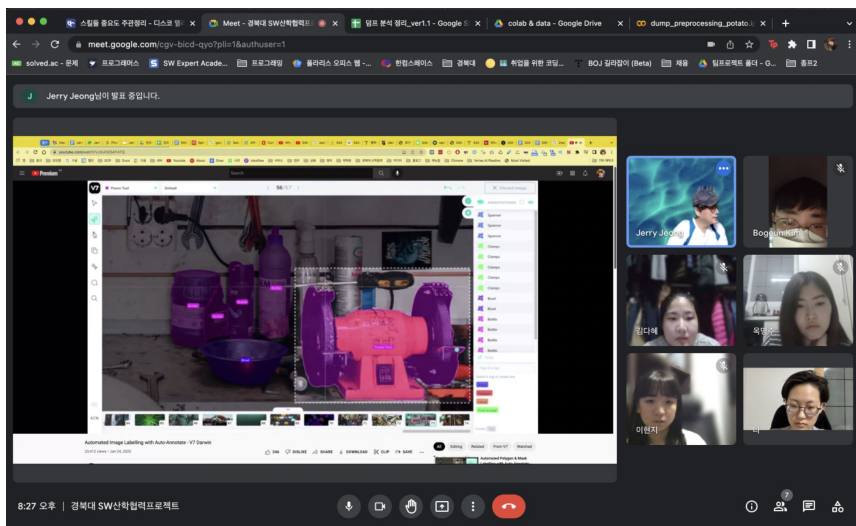


# 03

## Project Schedule

- Meeting & Schedule Management
- Gantt Chart

## 03\_1 Project Schedule & Method - Meeting & Schedule Management



Github   Google Meet   Trello



## 03\_2 Project Schedule & Method - Gantt Chart

No	Task	담당자	상태	시작일	완료일	2022년 3월				2022년 4월				2022년 5월				2022년 6월	
						2주	3주	4주	5주	1주	2주	3주	4주	1주	2주	3주	4주	1주	2주
계획 및 설계																			
1	주제 선정 및 역할 분담	공동	Done	3/7	3/14														
2	계획서 작성	공동	Done	3/7	3/18														
데이터 분석																			
3	데이터 1차 분석	김다혜, 김보근	Done	3/21	3/27														
4	데이터 2차 분석	김나형, 이현지, 옥명주	Doing	4/4	4/17														
모델링																			
5	모델 개발(AutoML)	김다혜, 김보근	Doing	4/18	5/15														
6	모델 개발(BERT)	김나형, 이현지, 옥명주	to Do	5/16	5/29														
논문 작성																			
7	Draft 작성	공동	to Do	3/28	4/3														
8	최종 논문 작성	공동	to Do	..	..														
응용 프로그램 개발																			
9	API 개발	이현지	to Do	5/16	5/29														
10	UI / UX 설계 및 기획	김나형, 김다혜	to Do	5/16	5/22														
11	웹 애플리케이션 개발	김나형, 김다혜	to Do	5/23	6/12														
연동																			
12	업체 시스템과 모델 연동	김보근, 옥명주	to Do	5/16	5/29														
13	Testing 및 수정	공동	to Do	5/30	6/12														



## 03\_2 Project Schedule & Method - Gantt Chart

### 1. Text Labeling



### 2. Model

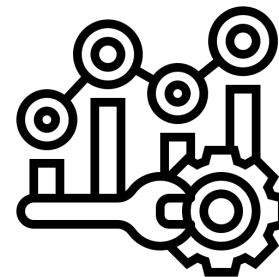


Cloud AutoML Vision

### 3. Data API



### 4. Test Server



**Thank you  
for  
your attention!**

From. TEAM3