

Arthas (阿尔萨斯) 能为你做什么？

当你遇到以下类似问题而束手无策时，Arthas可以帮助你解决：

1. 这个类从哪个 jar 包加载的？为什么会报各种类型相关的 Exception？
2. 我改的代码为什么没有执行到？难道是我没 commit？分支搞错了？
3. 遇到问题无法在线上 debug，难道只能通过加日志再重新发布吗？
4. 线上遇到某个用户的数据处理有问题，但线上同样无法 debug，线下无法重现！
5. 是否有一个全局视角来查看系统的运行状况？
6. 有什么办法可以监控到VM的实时运行状态？
7. 怎么快速定位应用的热点，生成火焰图？

Arthas用户文档地址：<https://alibaba.github.io/arthas/index.html>

Arthas Github地址：<https://github.com/alibaba/arthas>

简单开始步骤

1. <https://github.com/alibaba/arthas/releases> 在发布目录中 下载 arthas-x.x.x-bin.zip文件 --182环境/opt/alibaba/下有
2. 传入后台 unzip arthas-x.x.x-bin.zip
3. cd arthas-x.x.x-bin
4. java -jar arthas-boot.jar
5. 选择进程 例如：我想选择dcim 输入：1 回车

```
[root@localhost opt]# cd /opt/alibaba/arthas-packaging-3.1.7-bin
[root@localhost arthas-packaging-3.1.7-bin]# java -jar arthas-boot.jar
[INFO] arthas-boot version: 3.1.7
[INFO] Process 19067 already using port 3658
[INFO] Process 19067 already using port 8563
[INFO] Found existing java process, please choose one and hit RETURN.
* [1]: 19067 org.apache.catalina.startup.Bootstrap
  [2]: 28369 /opt/xbrother/xdcom_dcom/service/itom-dcom-service-1.0-SNAPSHOT.war
  [3]: 562 /opt/xbrother/xdcom_cabling/service/itom-cabling-service-1.0-SNAPSHOT.jar
  [4]: 339 /opt/xbrother/xdcom_change/service/itom-change-service-1.0-SNAPSHOT.jar
  [5]: 32532 /opt/xbrother/xdcom_common/service/itom-common-service-1.0-SNAPSHOT.jar
  [6]: 31030 /opt/xbrother/xdcom_maintenance/service/itom-maintenance-service-1.0-SNAPSHOT.jar
  [7]: 30967 /opt/xbrother/xdcom_tenant/service/itom-tenant-service-1.0-SNAPSHOT.jar
  [8]: 32184 /opt/xbrother/xdcom_duty/service/itom-duty-service-1.0-SNAPSHOT.jar
  [9]: 1784 arthas-boot.jar
 [10]: 31609 /opt/xbrother/xdcom_knowledge/service/itom-knowledge-service-1.0-SNAPSHOT.jar
 [11]: 31195 /opt/xbrother/xdcom_person/service/itom-person-service-1.0-SNAPSHOT.jar
 [12]: 31837 /opt/xbrother/xdcom_incident/service/itom-incident-service-1.0-SNAPSHOT.jar
 [13]: 1118 /opt/xbrother/xdcom_emergency/service/itom-emergency-service-1.0-SNAPSHOT.jar
1
[INFO] arthas home: /opt/alibaba/arthas-packaging-3.1.7-bin
[INFO] The target process already listen port 3658, skip attach.
[INFO] arthas-client connect 127.0.0.1 3658
,---. ,-----. ,-----.,--. ,--. ,---. ,---. ,---
```

```
/ 0 \ | .-. '---' .-. | '---' | / 0 \ ' .-'
| .-. || '---' | | | .-. || .-. | \ .-'
| | | | \ \ | | | | | | | | | |
'---' '---' '---' '---' '---' '---' '---' '---'
```

```
wiki      https://alibaba.github.io/arthas
tutorials https://alibaba.github.io/arthas/arthas-tutorials
version   3.1.7
pid       19067
time      2020-01-13 06:26:46

[arthas@19067]$
```

经常使用

jad: 反编译类

输入：`jad 包名.类名` 或者 `jad 包名`

输出：源码

```
[arthas@2763]$ jad com.xbrother.dcim.web.device.home.HomeController countDeviceStatusPie

Location:

/opt/data/xrocket/package/xdcim/xdcim-1.3.60-release/xdcim/dcim/WEB-INF/classes/

@ResponseBody
@RequestMapping(value={"/count/status/pie/{type}"})
public String countDeviceStatusPie(HttpServletRequest request, @PathVariable(value="type")
Integer type) {
    Map<String, JSONObject> statusMap = this.commCountDeviceStatus(request, type);
    String opts = this.commMapToPie(statusMap);
    return opts;
}
```

trace:监控方法调用栈

输入：`trace 包名.类名`

输出：执行方法的调用路径，并输出每个节点的时间 (经常用于定位异常调试，快速定位方法慢在哪)

```
[arthas@19067]$ trace com.xbrother.dcim.web.capacity.home.CapacityHomeController getTrendData
Press Q or Ctrl+C to abort.
Affect(class-cnt:1 , method-cnt:1) cost in 1399 ms.
```

```

`---ts=2020-01-13 06:27:35;thread_name=http-nio-8080-exec-
16;id=af;is_daemon=true;priority=5;TCCL=org.apache.catalina.loader.ParallelWebappClassLoader@5c3
0a9b0
`---[3416.837013ms]
com.xbrother.dcim.web.capacity.home.CapacityHomeController:getTrendData()
    +---[0.033933ms] javax.servlet.http.HttpServletRequest:getParameter() #83
    +---[0.023235ms] com.xbrother.framework.cache.ConfigPropertiesCache:getInstance() #85
    +---[0.021236ms] com.xbrother.framework.cache.ConfigPropertiesCache:get() #86
    +---[0.005502ms] com.xbrother.framework.cache.ConfigPropertiesCache:get() #87
    +---[3413.724034ms]
com.xbrother.dcim.service.capacity.trend.CapacityHistoryTrendService:generateOverViewCapacityTre
ndEchartData() #89
    +---[0.362634ms] com.xbrother.dcim.common.capacity.CapacityUtil:contackStrArr() #91
    +---[0.06523ms] com.alibaba.fastjson.JSONArray:parseArray() #91
    +---[0.067414ms] com.xbrother.dcim.common.capacity.CapacityUtil:getMaxValue() #93
    `---[0.13753ms] com.alibaba.fastjson.JSON:toJSONString() #99

```

watch:方法执行数据观测

输入：`watch 包名.类名`

加上 `'{params[0],returnObj.toString()}'` 表示查看入参和出参 toString， 其余还有出参大小，异常等设置

输出参数：

```

[arthas@24339]$ watch com.xbrother.dcim.api.device.DeviceZJSController InventoryById
'{params[0],returnObj.toString() }'
Press Q or Ctrl+C to abort.
Affect(class-cnt:1 , method-cnt:1) cost in 375 ms.
ts=2020-01-10 15:33:20; [cost=635.816392ms] result=@ArrayList[
    @String[AQSB上海分公司FIW310422],
    @String[ResponseDto [status=200, message=操作成功!, data=
{"bSDAQY":"","cGSJ":"00010101","cSLBJG":-1,"cZXTBB":"","cZXTMC":"","sBLX":"防火墙","sBPP":"华
为","sBXH":"","sFGC":"","sSHJ":"测试环
境","sSHT":"","sSJF":"","sXSJ":"00010101","xXSJ":"00010101","xXYV":"","zKFY":-1,"zKL":-1,"zT":"","
","zYBH":"AQSB上海分公司FIW310422","zYLX":"安全设备"}]],
]

```