BISHENG平台ARM架构部署手册

1. 引言

1.1 编写目的

本手册旨在为系统管理员、运维工程师及技术支持人员提供一套完整、详细的 **BISHENG平台在ARM架构环境下的部署指南**。随着国产化软硬件生态的发展，越来越多的业务系统需要适配基于ARM架构的服务器与操作系统。为了确保BISHENG平台能够在ARM平台上稳定、高效地运行，本文档从实际部署需求出发，详细说明了软硬件环境准备、依赖组件安装、服务配置与启动等关键步骤，帮助用户快速完成平台的部署与验证工作。

同时，本手册也为后续系统的维护、升级和故障排查提供了参考依据，提升平台在ARM架构下的可维护性与稳定性，助力实现平台全面适配国产化技术路线的目标。

注：本手册只包含BISHENG平台核心服务部署，不包含OCR及其他模型部署！

1.2 适用范围

本手册**适用于使用基于ARM架构服务器及操作系统**（如鲲鹏CPU，以及Centos、Ubuntu、麒麟Kylin操作系统）进行BISHENG平台部署、运维和管理的相关人员。适用于以下场景：

- BISHENG平台在ARM架构环境中的首次安装与部署；
- 平台版本升级、环境适配及故障排查等升级维护工作。

本手册也可作为开发人员、测试人员及相关技术支持团队参考文档，确保BISHENG平台在ARM架构下的兼容性、稳定性和性能表现满足实际业务需求。

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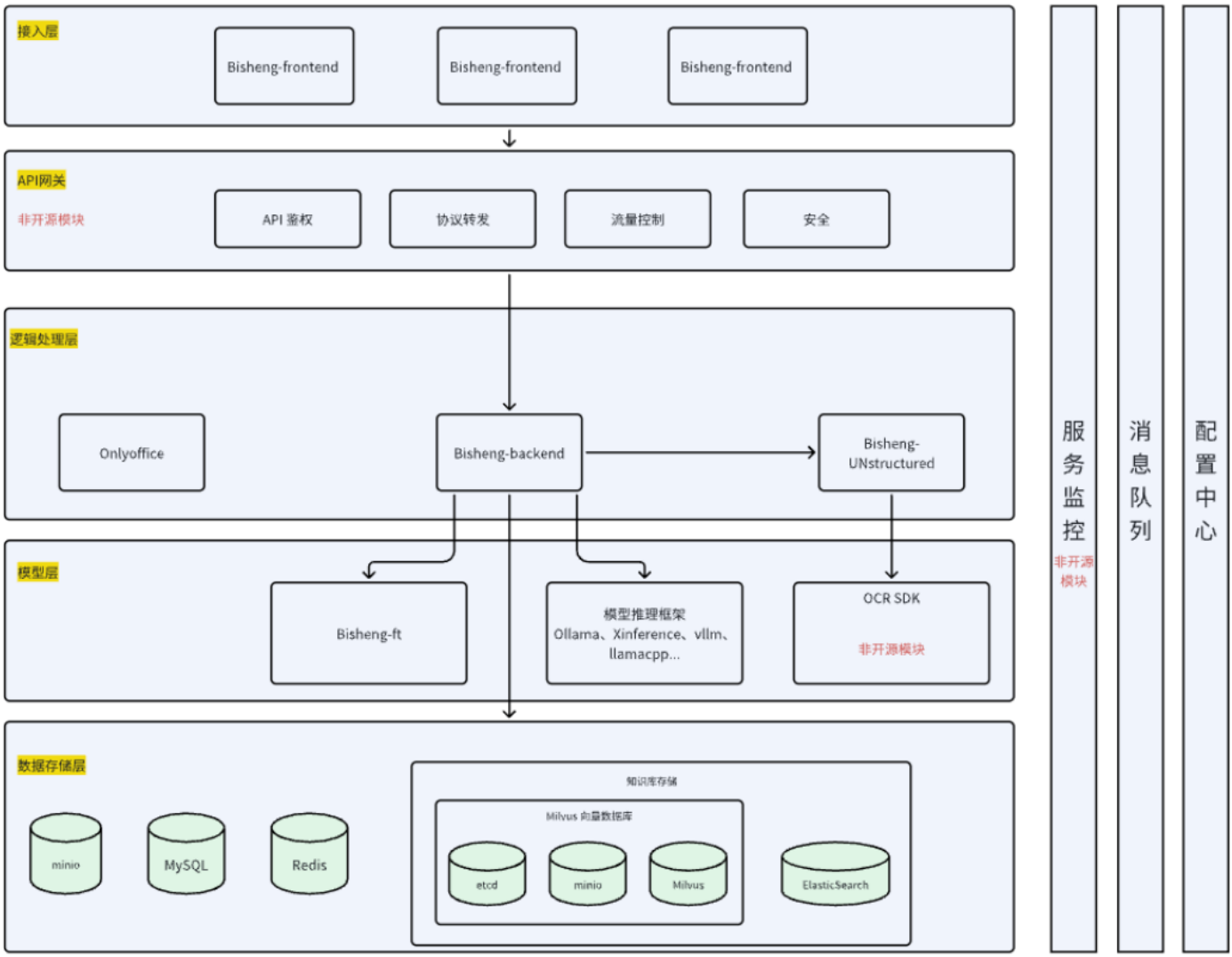
2. 系统概述

2.1 软件简介

应用名称	版本	功能
bisheng-backend	2.0.3-arm	BISHENG后端服务
bisheng-frontend	2.0.3-arm	BISHENG前端服务
mysql	8.0.39-linuxarm64	数据库

redis	7.2.4-linuxarm64	持久化存储
onlyoffice	8.2.0-linuxarm64	word文档生成
elasticsearch	8.12.2-linuxarm64	搜索和分析引擎
etcd	v3.5.13-linuxarm64	存储 Milvus 的配置信息和服务发现与状态监控
minio	RELEASE.2023-04-28T18-11-17Z-linuxarm64	对象存储
milvus	v2.3.21-linuxarm64	向量存储
bisheng-unstructured-arm	release	提供非结构化数据的解析能力

2.2 架构图



2.3 部署环境说明

CPU型号	• Kunpeng-920-arm64架构（仅限运行毕昇核心服务）
虚拟CPU核数	• 32虚拟核
内存	• 256G
磁盘	• SSD 1T*1
操作系统	• Kylin Linux Advanced Server V10 (Tercel)
Docker	• Docker 20.10.9+ • Docker Compose version v2.20.3
客户端浏览器	毕昇平台内含有文件溯源展示、word在线编辑功能，需要高级浏览器提供底层能力支持，chrome 建议至少 v92+ 。建议使用最新版浏览器，以免功能无法正常使用。

2.4 部署方式

本文档部署方式为docker-compose部署，如果是k8s部署请参考：毕昇组件在K8S上部署的yaml配置参考

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3. 部署前准备

3.1 环境要求

- 操作系统版本

  只支持ARM架构操作系统：Centos、Ubuntu、麒麟Kylin操作系统

- 硬件配置要求（CPU、内存、磁盘）

  虚拟CPU核数： 32核

  内存：256G

  磁盘：1TB

- 网络配置

建议关闭服务器本地防火墙

如果有其他网络安全组的限制，需要按照以下要求开通端口：

应用名称	端口号	是否需要开放端口
backend	7860	否

frontend	3001	是
mysql	3306	否
redis	6379	否
onlyoffice	8701	是
elasticsearch	9200	否
etcd	2379	否
minio	9100、9000	是
milvus	19530	否
bisheng-unstructured	10001	是

- 依赖环境

  需要安装docker+docker-compose

- 用户权限要求

  建议使用root用户部署，如果不能使用root用户，当前用户需要有sudo权限

3.2 安装包获取

- docker环境安装包

代码块

```
通过网盘分享的文件：docker.zip
链接：https://pan.baidu.com/s/1IrwkbdbVeKzyEWJkx1pfNg?pwd=6jd2 提取码：6jd2
```

- 镜像获取路径

代码块

```
# 登陆到毕昇提供的私有镜像仓库
docker login cr.dataelem.com -u docker -p dataelem
# 从毕昇私有镜像仓库下载所需的镜像，其中frontend和backend镜像可以相应替换成最新版本，其他镜像较少更新
docker  pull  cr.dataelem.com/dataelement/bisheng-frontend:v2.0.3-arm64
docker  pull cr.dataelem.com/dataelement/bisheng-backend:v2.0.3-arm64
docker  pull  cr.dataelem.com/bisheng-milvus:v2.3.21-linuxarm64
docker  pull  cr.dataelem.com/bisheng-mysql:8.0.39-linuxarm64
docker  pull  cr.dataelem.com/bisheng-redis:7.2.4-linuxarm64
docker  pull  cr.dataelem.com/bisheng-etcd:v3.5.13-linuxarm64
```

```
docker pull cr.dataelem.com/bisheng-elasticsearch:8.12.2-linuxarm64
docker pull cr.dataelem.com/bisheng-minio:RELEASE.2023-04-28T18-11-17Z-linuxarm64
docker pull cr.dataelem.com/documentserver:7.2.1-arm64
docker pull cr.dataelem.com/dataelement/bisheng-unstructured-arm:release
```

- 下载BISHENG代码

代码块

```
# 如果系统中有git命令，可以直接下载毕昇代码
git clone https://github.com/dataelement/bisheng.git
# 进入安装目录
cd bisheng/docker

# 如果系统没有没有git命令，可以下载毕昇代码zip包
wget https://github.com/dataelement/bisheng/archive/refs/heads/main.zip
# 解压并进入安装目录
unzip main.zip && cd bisheng-main/docker
```

---

4. 部署步骤

4.1 基础环境配置

代码块

```
#永久关闭 SELinux
vim /etc/selinux/config
#将文件中的SELINUX=enforcing改为SELINUX=disabled
#保存更改并退出编辑器
#更改需要重启系统才能生效
sudo reboot

#临时关闭 SELinux
sudo setenforce 0

#临时和永久关闭防火墙
sudo systemctl stop firewalld
sudo systemctl disable firewalld

#下载docker安装包，并解压
unzip docker.zip
cd docker
```

```
#使用root用户，或者sudo 执行install_docker.sh脚本
bash install_docker.sh

#执行成功后执行以下命令可以返回详细版本信息即为成功
[root@ecs-8b0f docker]# docker -v
Docker version 20.10.9, build c2ea9bc
[root@ecs-8b0f docker]# docker-compose -v
Docker Compose version v2.20.3

#至此运行BISHENG平台需要基础环境安装完成
```

4.2 修改配置文件

- BISHENG平台核心组件配置修改

代码块

```
#下载好BISHENG代码或者压缩包并解压进入
cd bisheng-main/docker
#修改docker-compose.yml配置文件内容
#修改内容较多，可以直接复制以下配置
services:
  mysql:
    container_name: bisheng-mysql
    image: cr.dataelem.com/bisheng-mysql:8.0.39-linuxarm64
    ports:
      - "3306:3306"
    environment:
      MYSQL_ROOT_PASSWORD: "1234"
      MYSQL_DATABASE: bisheng
      TZ: Asia/Shanghai
    volumes:
      - ${DOCKER_VOLUME_DIRECTORY:-.}/mysql/conf/my.cnf:/etc/mysql/my.cnf
      - ${DOCKER_VOLUME_DIRECTORY:-.}/mysql/data:/var/lib/mysql
    healthcheck:
      test: ["CMD-SHELL", "exit | mysql -u root -p$$MYSQL_ROOT_PASSWORD"]
      start_period: 30s
      interval: 20s
      timeout: 10s
      retries: 4
    restart: on-failure

  redis:
    container_name: bisheng-redis
    image: cr.dataelem.com/bisheng-redis:7.2.4-linuxarm64
    user: root
```

```
    ports:
      - "6379:6379"
    environment:
      TZ: Asia/Shanghai
    volumes:
      - ${DOCKER_VOLUME_DIRECTORY:-.}/data/redis:/data
      - ${DOCKER_VOLUME_DIRECTORY:-.}/redis/redis.conf:/etc/redis.conf
    command: redis-server /etc/redis.conf
    healthcheck:
      test: ["CMD-SHELL", 'redis-cli ping|grep -e "PONG\|NOAUTH"']
      interval: 10s
      timeout: 5s
      retries: 3
    restart: on-failure

  elasticsearch:
    container_name: bisheng-elasticsearch
    image: cr.dataelem.com/bisheng-elasticsearch:8.12.2-linuxarm64
    environment:
      - discovery.type=single-node
      - "ES_JAVA_OPTS=-Xms512m -Xmx512m"
      - ELASTIC_PASSWORD=es123456!
      - xpack.security.enabled=false
      - xpack.security.http.ssl.enabled=false
      - TZ=Asia/Shanghai
    volumes:
      - ${DOCKER_VOLUME_DIRECTORY:-.}/data/es:/usr/share/elasticsearch/data
    ports:
      - "9200:9200"
      - "9300:9300"
    ulimits:
      memlock:
        soft: -1
        hard: -1
    healthcheck:
      test: ["CMD-SHELL", "curl -s -f http://localhost:9200/_cluster/health ||
exit 1"]
      interval: 30s
      timeout: 10s
      retries: 3
    restart: on-failure

  backend:
    container_name: bisheng-backend
    image: cr.dataelem.com/dataelement/bisheng-backend:v1.1.1-arm
    ports:
      - "7860:7860"
```

```
    environment:
      TZ: Asia/Shanghai
      BS_MILVUS_CONNECTION_ARGS:
'{"host":"milvus","port":"19530","user":"","password":"","secure":false}'
      BS_MILVUS_IS_PARTITION: 'true'
      BS_MILVUS_PARTITION_SUFFIX: '1'
      BS_ELASTICSEARCH_URL: 'https://elasticsearch:9200'
      BS_ELASTICSEARCH_SSL_VERIFY: '{"basic_auth": ("elastic", "es123456!"),
"verify_certs": False}'
      BS_MINIO_SCHEMA: 'false'
      BS_MINIO_CERT_CHECK: 'false'
      BS_MINIO_ENDPOINT: 'minio:9000'
      BS_MINIO_SHAREPOIN: 'minio:9000'
      BS_MINIO_ACCESS_KEY: 'minioadmin'
      BS_MINIO_SECRET_KEY: 'minioadmin'
      BISHENG_PRO: 'true'
    volumes:
      -
${DOCKER_VOLUME_DIRECTORY:-.}/bisheng/config/config.yaml:/app/bisheng/config.ya
ml
      - ${DOCKER_VOLUME_DIRECTORY:-.}/bisheng/entrypoint.sh:/app/entrypoint.sh
      - ${DOCKER_VOLUME_DIRECTORY:-.}/data/bisheng:/app/data
    security_opt:
      - seccomp:unconfined
    command: sh entrypoint.sh
    restart: on-failure
    healthcheck:
      test: ["CMD", "curl", "-f", "http://localhost:7860/health"]
      start_period: 30s
      interval: 90s
      timeout: 30s
      retries: 3
    depends_on:
      mysql:
        condition: service_healthy
      redis:
        condition: service_healthy

  frontend:
    container_name: bisheng-frontend
    image: cr.dataelem.com/dataelement/bisheng-frontend:v1.1.1-arm
    ports:
      - "3001:3001"
    environment:
      TZ: Asia/Shanghai
    volumes:
      - ${DOCKER_VOLUME_DIRECTORY:-.}/nginx/nginx.conf:/etc/nginx/nginx.conf
```

```
      - ${DOCKER_VOLUME_DIRECTORY:-.}/nginx/conf.d:/etc/nginx/conf.d
    restart: on-failure
    depends_on:
      - backend

  etcd:
    container_name: milvus-etcd
    image: cr.dataelem.com/bisheng-etcd:v3.5.13-linuxarm64
    environment:
      - ETCD_AUTO_COMPACTION_MODE=revision
      - ETCD_AUTO_COMPACTION_RETENTION=1000
      - ETCD_QUOTA_BACKEND_BYTES=4294967296
      - ETCD_SNAPSHOT_COUNT=50000
    volumes:
      - ${DOCKER_VOLUME_DIRECTORY:-.}/volumes/etcd:/etcd
    command: etcd -advertise-client-urls=http://127.0.0.1:2379 -listen-client-urls http://0.0.0.0:2379 --data-dir /etcd
    healthcheck:
      test: ["CMD", "etcdctl", "endpoint", "health"]
      interval: 30s
      timeout: 20s
      retries: 3

  minio:
    container_name: milvus-minio
    image: cr.dataelem.com/bisheng-minio:RELEASE.2023-04-28T18-11-17Z-linuxarm64
    environment:
      MINIO_ACCESS_KEY: minioadmin
      MINIO_SECRET_KEY: minioadmin
    ports:
      - "9101:9001"
      - "9100:9000"
    volumes:
      - ${DOCKER_VOLUME_DIRECTORY:-.}/volumes/minio:/minio_data
    command: minio server /minio_data --console-address ":9001"
    healthcheck:
      test: ["CMD", "curl", "-f", "http://localhost:9000/minio/health/live"]
      interval: 30s
      timeout: 20s
      retries: 3

  milvus:
    container_name: milvus-standalone
    image: cr.dataelem.com/bisheng-milvus:v2.3.21-linuxarm64
    command: ["milvus", "run", "standalone"]
    security_opt:
```

```
      - seccomp:unconfined
    environment:
      ETCD_ENDPOINTS: etcd:2379
      MINIO_ADDRESS: minio:9000
    volumes:
      - ${DOCKER_VOLUME_DIRECTORY:-.}/volumes/milvus:/var/lib/milvus
    healthcheck:
      test: ["CMD", "curl", "-f", "http://localhost:9091/healthz"]
      interval: 30s
      start_period: 90s
      timeout: 20s
      retries: 3
    ports:
      - "19530:19530"
      - "9091:9091"
    depends_on:
      - "etcd"
      - "minio"

  office:
    container_name: bisheng-office
    image: cr.dataelem.com/documentserver:7.2.1-arm64
    ports:
      - "8701:80"
    environment:
      TZ: Asia/Shanghai
      JWT_ENABLED: false
    volumes:
      - ${DOCKER_VOLUME_DIRECTORY:-.}/office/bisheng:/var/www/onlyoffice/documentserver/sdkjs-plugins/bisheng
    command: bash -c "supervisorctl restart all"
    restart: on-failure

#修改完成后:wq保存退出
```

- bisheng-unstructured组件配置修改

代码块

```
#下载好BISHENG代码或者压缩包并解压进入
cd bisheng-main/docker
#修改image配置，改为arm镜像
services:
  bisheng-unstructured:
    container_name: bisheng-unstructured
```

```
    image: cr.dataelem.com/dataelement/bisheng-unstructured-arm:release
    ports:
      - "10001:10001"
    environment:
      # 填写ocr_sdk或rt服务的根地址
      # server_address: bisheng-rt:9001
      # 这里填 ocr_sdk 或 rt
      # server_type: ocr_sdk
      TZ: Asia/Shanghai
    volumes:
      - ${DOCKER_VOLUME_DIRECTORY:-.}/bisheng-uns/config.yaml:/opt/bisheng-unstructured/bisheng_unstructured/config/config.yaml
    healthcheck:
      test: ["CMD", "curl", "-f", "http://localhost:10001/health"]
      interval: 30s
      timeout: 20s
      retries: 3
    restart: on-failure

 #修改完成后:wq保存退出
```

4.3 服务启动与验证

- 启动服务命令（必须完成4.2修改配置文件之后再执行以下步骤）

代码块

```
#以下启动命令需要在 bisheng-main/docker 目录下执行
#BISHENG平台核心组件ls启动
docker-compose  up -d
#bisheng-unstructured组件启动
docker-compose -f docker-compose-uns.yml  up -d
```

- 查看服务状态

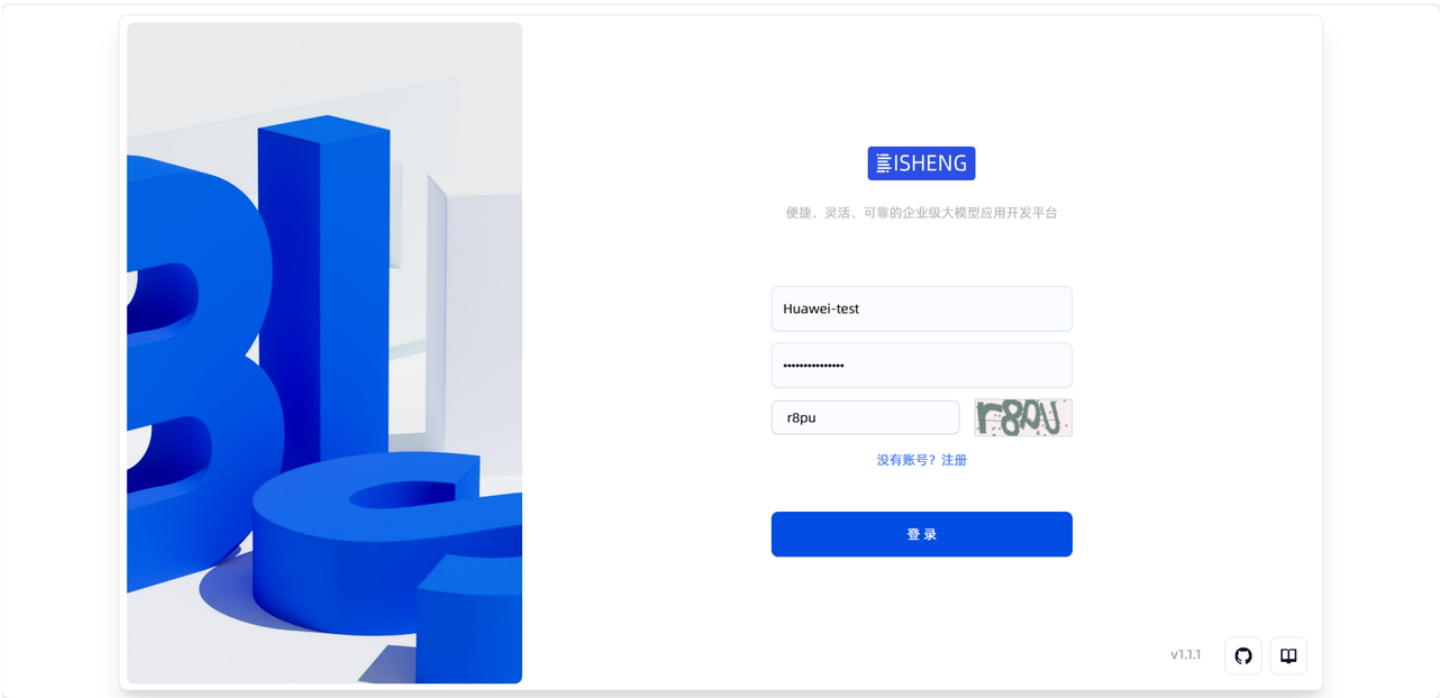
  执行docker ps -a|grep bisheng 命令查看服务状态，和下图一致即为启动成功

```
[root@ecs-8b0f docker]# docker ps -a | grep bisheng
ad4de4781168   cr.dataelem.com/dataelement/bisheng-unstructured-arm:release            "bash bin/entrypoint…"   4 hours ago    Up 4 hours (healthy)    0.0.0.0:10001->10001/tcp, :::10001->10001/tcp
                       bisheng-unstructured
9cd66f44e8fc   cr.dataelem.com/dataelement/bisheng-frontend:v1.1.1-arm                 "/docker-entrypoint.…"   4 hours ago    Up 4 hours              80/tcp, 0.0.0.0:3001->3001/tcp, :::3001->3001/tcp
                       bisheng-frontend
a838a4e83103   cr.dataelem.com/dataelement/bisheng-backend:v1.1.1-arm                   "sh entrypoint.sh"       4 hours ago    Up 4 hours (healthy)    0.0.0.0:7860->7860/tcp, :::7860->7860/tcp
                       bisheng-backend
1cde05301f69   cr.dataelem.com/bisheng-redis:7.2.4-linuxarm64                          "docker-entrypoint.s…"   4 hours ago    Up 4 hours (healthy)    0.0.0.0:6379->6379/tcp, :::6379->6379/tcp
                       bisheng-redis
9237a6ca7b18   cr.dataelem.com/bisheng-elasticsearch:8.12.2-linuxarm64                 "/bin/tini -- /usr/l…"   5 hours ago    Up 5 hours (healthy)    0.0.0.0:9200->9200/tcp, :::9200->9200/tcp, 0.0.0.0:9300->9300/tcp, :::9300->9300/tcp       bisheng-elasticsearch
078c59f271b5   cr.dataelem.com/bisheng-milvus:v2.3.21-linuxarm64                       "/tini -- milvus run…"   23 hours ago   Up 5 hours (healthy)    0.0.0.0:9091->9091/tcp, :::9091->9091/tcp, 0.0.0.0:19530->19530/tcp, :::19530->19530/tcp   milvus-standalone
71e37b909ade   cr.dataelem.com/bisheng-minio:RELEASE.2023-04-28T18-11-17Z-linuxarm64   "/usr/bin/docker-ent…"   23 hours ago   Up 20 hours (healthy)   0.0.0.0:9100->9000/tcp, :::9100->9000/tcp, 0.0.0.0:9101->9001/tcp, :::9101->9001/tcp       milvus-minio
176557ea5545   cr.dataelem.com/bisheng-documentserver:8.2.0-linuxarm64                 "/app/ds/run-documen…"   23 hours ago   Up 20 hours             443/tcp, 0.0.0.0:8701->80/tcp, :::8701->80/tcp
                       bisheng-office
2041676a58c8   cr.dataelem.com/bisheng-mysql:8.0.39-linuxarm64                         "docker-entrypoint.s…"   23 hours ago   Up 5 hours (healthy)    0.0.0.0:3306->3306/tcp, :::3306->3306/tcp, 33060/tcp
                       bisheng-mysql
31b5a1265e78   cr.dataelem.com/bisheng-etcd:v3.5.13-linuxarm64                         "etcd -advertise-cli…"   23 hours ago   Up 20 hours (healthy)   2379-2380/tcp
                       milvus-etcd
[root@ecs-8b0f docker]#
```

如果服务启动有问题，请先参考“6.常见问题处理”!!!

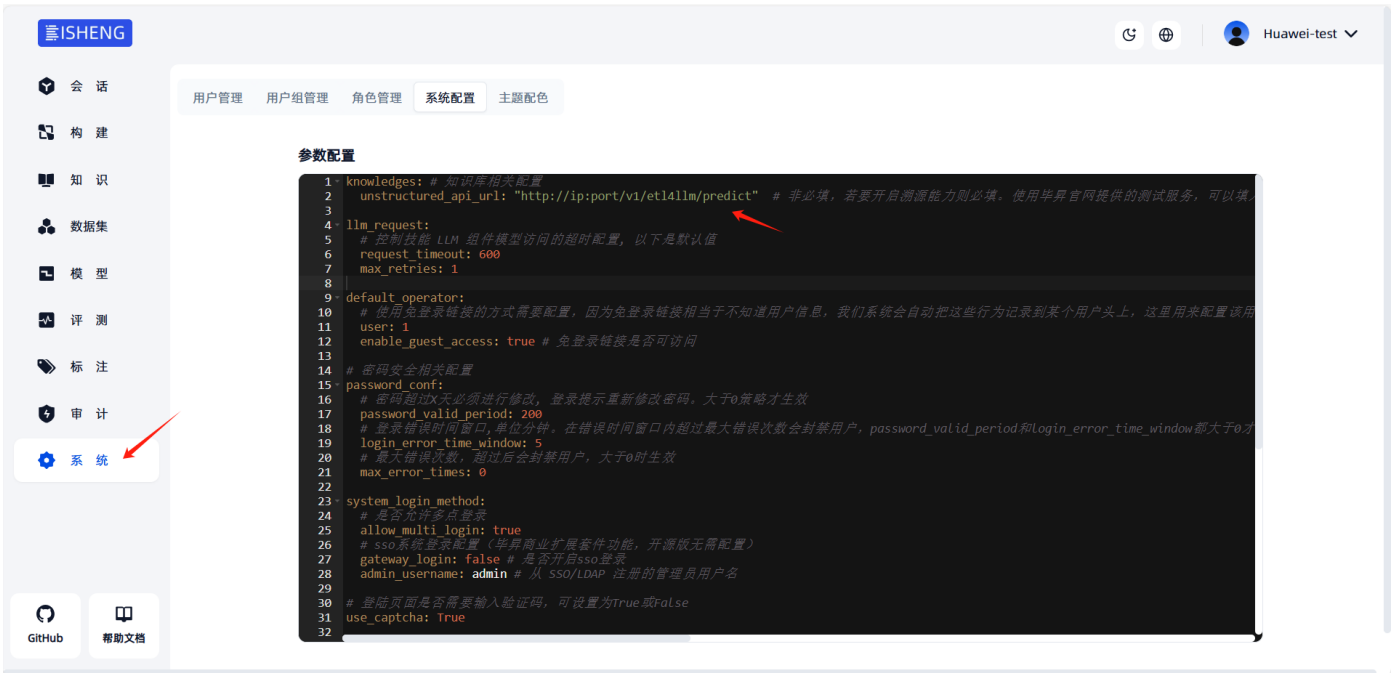
- 访问BISHENG页面

浏览器访问IP:3001端口，进行登录（首次登录需要注册账号，首次注册的账号默认设置为管理员）

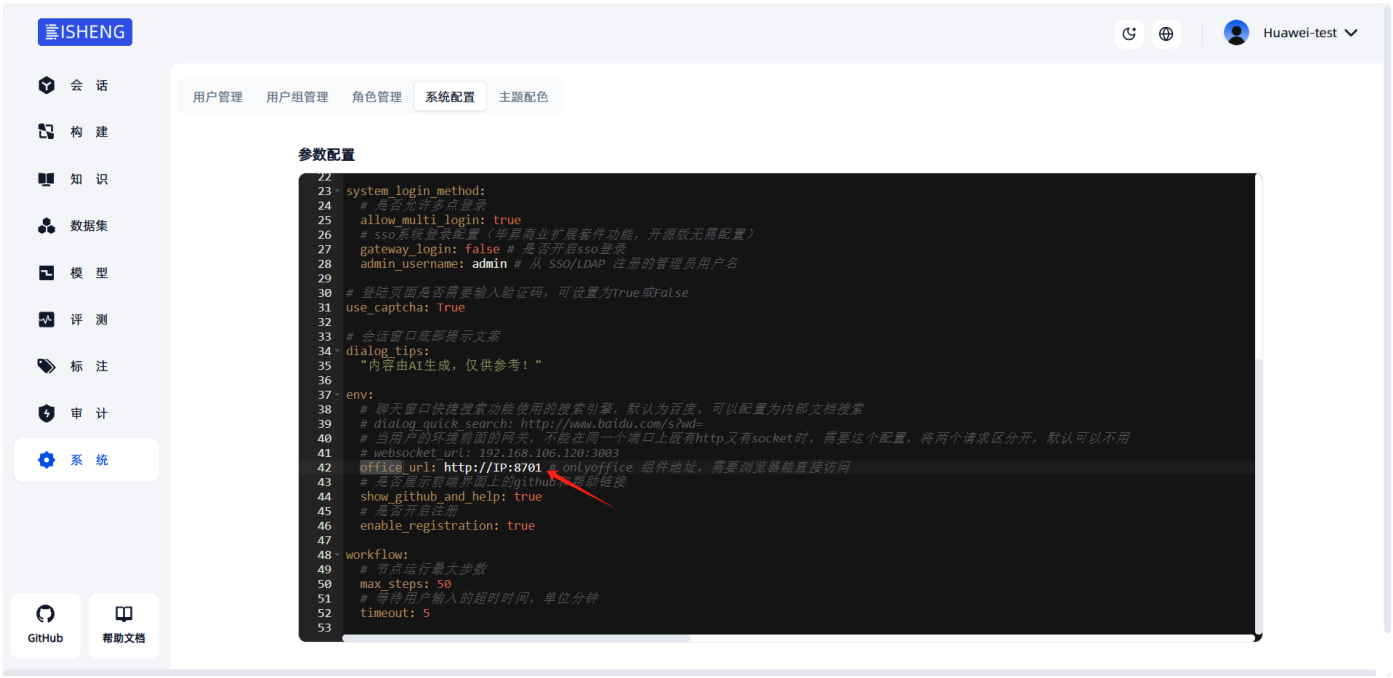


5. 配置说明

5.1 配置unstructured



5.2 配置office



- 工作流、助手、技能配置案例

  应用案例/场景库

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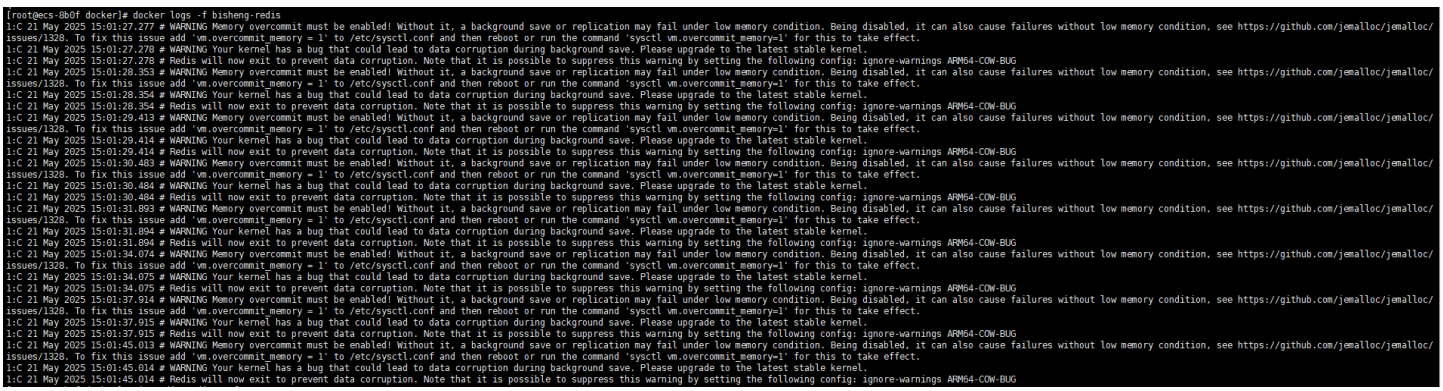
6. 常见问题处理

6.1 毕昇Logo与产品名修改方法

毕昇Logo与产品名修改方法指南

6.2 redis服务启动常见问题：

- redis服务启动失败，查看日志时出现以下报错



解决方式：

启用内存过提交（依次执行以下命令）：

sysctl vm.overcommit_memory=1

echo "vm.overcommit_memory = 1" | sudo tee -a /etc/sysctl.conf

sudo sysctl -p

修改redis.conf文件配置，并添加以下内容：

ignore-warnings ARM64-COW-BUG

修改redis配置文件权限：

chown 999:999 redis/redis.conf

chmod 664 redis/redis.conf

执行完以上操作，重启redis容器！

```
1:C 26 May 2025 15:54:35.518 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 15:55:36.102 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 15:56:36.613 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 15:57:37.204 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 15:58:37.762 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 15:59:38.414 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:00:39.002 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:01:39.603 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:02:40.183 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:03:40.782 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:04:41.362 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:05:42.003 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:06:15.922 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:06:17.023 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:06:17.972 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:06:19.034 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:06:20.807 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:06:23.072 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:06:26.861 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:06:33.853 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:06:47.223 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:07:13.372 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:08:05.102 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:09:05.705 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:10:06.292 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
1:C 26 May 2025 16:11:06.843 # Fatal error, can't open config file '/etc/redis.conf': Permission denied
```

6.3 ES服务启动常见问题：

- ES容器自动重启，查看日志出现以下错误：

解决方式：

如果已经关闭了SElinux 还会有以上报错那就是已经挂载的ES存储目录权限有问题，执行以下命令修改目录权限：

chown -R 1000:1000 ./data/es

chmod -R 755 ./data/es

修改完目录权限后重启ES服务：docker-compose up -d

6.4 backend容器启动常见问题：

- backend容器启动报错：

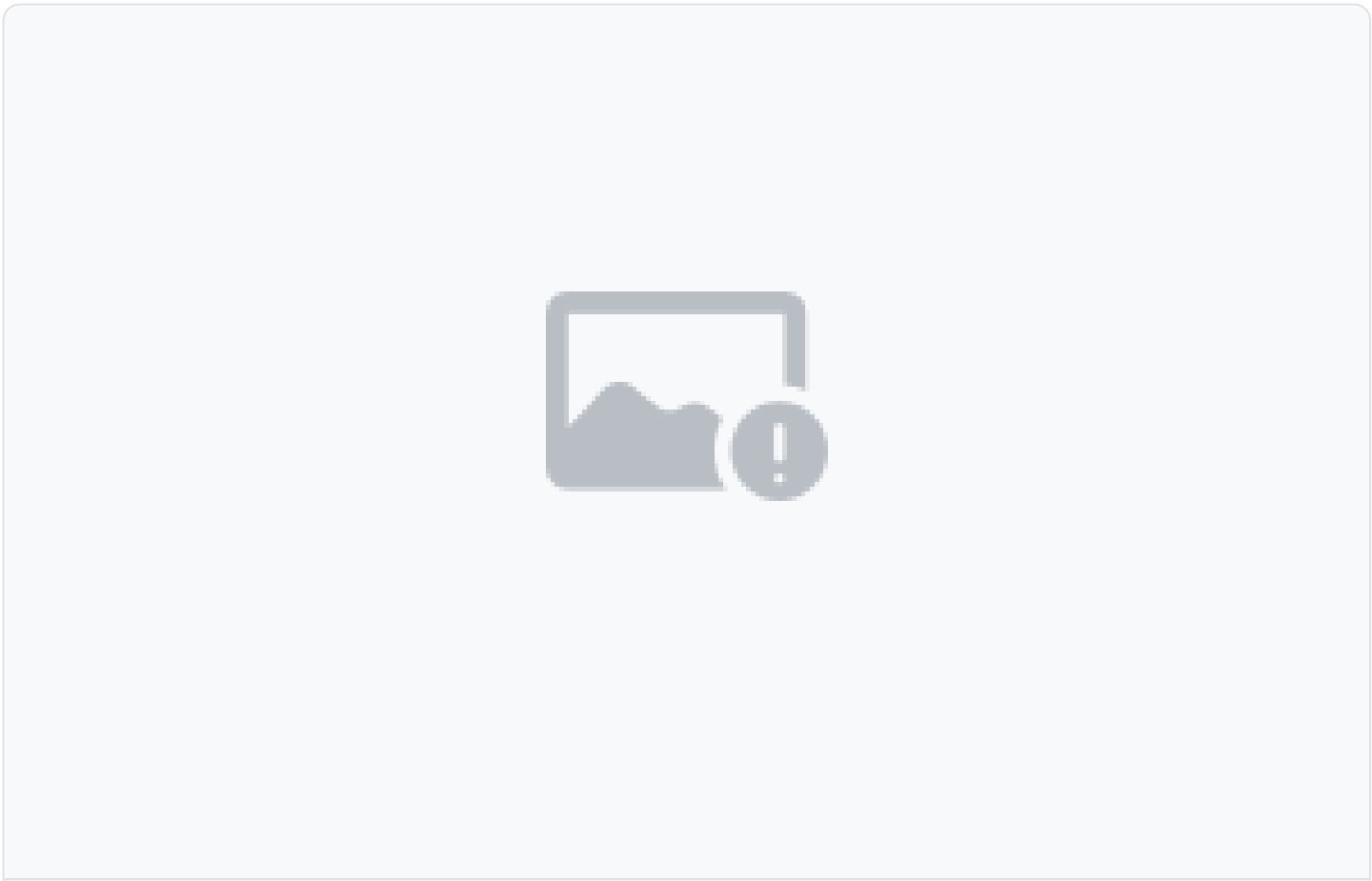
```
ERROR:    Traceback (most recent call last):
  File "/usr/local/lib/python3.10/site-packages/sqlalchemy/engine/base.py", line 146, in __init__
    self._dbapi_connection = engine.raw_connection()
  File "/usr/local/lib/python3.10/site-packages/sqlalchemy/engine/base.py", line 3298, in raw_connection
    return self.pool.connect()
  File "/usr/local/lib/python3.10/site-packages/sqlalchemy/pool/base.py", line 449, in connect
    return _ConnectionFairy._checkout(self)
  File "/usr/local/lib/python3.10/site-packages/sqlalchemy/pool/base.py", line 1264, in _checkout
    fairy = _ConnectionRecord.checkout(pool)
  File "/usr/local/lib/python3.10/site-packages/sqlalchemy/pool/base.py", line 713, in checkout
    rec = pool._do_get()
  File "/usr/local/lib/python3.10/site-packages/sqlalchemy/pool/impl.py", line 179, in _do_get
    with util.safe_reraise():
  File "/usr/local/lib/python3.10/site-packages/sqlalchemy/util/langhelpers.py", line 146, in __exit__
    raise exc_value.with_traceback(exc_tb)
  File "/usr/local/lib/python3.10/site-packages/sqlalchemy/pool/impl.py", line 177, in _do_get
    return self._create_connection()
  File "/usr/local/lib/python3.10/site-packages/sqlalchemy/pool/base.py", line 390, in _create_connection
    return _ConnectionRecord(self)
  File "/usr/local/lib/python3.10/site-packages/sqlalchemy/pool/base.py", line 675, in __init__
    self.__connect()
  File "/usr/local/lib/python3.10/site-packages/sqlalchemy/pool/base.py", line 901, in __connect
    with util.safe_reraise():
  File "/usr/local/lib/python3.10/site-packages/sqlalchemy/util/langhelpers.py", line 146, in __exit__
    raise exc_value.with_traceback(exc_tb)
  File "/usr/local/lib/python3.10/site-packages/sqlalchemy/pool/base.py", line 897, in __connect
    self.dbapi_connection = connection = pool._invoke_creator(self)
  File "/usr/local/lib/python3.10/site-packages/sqlalchemy/engine/create.py", line 646, in connect
    return dialect.connect(*cargs, **cparams)
  File "/usr/local/lib/python3.10/site-packages/sqlalchemy/engine/default.py", line 625, in connect
    return self.loaded_dbapi.connect(*cargs, **cparams)  # type: ignore[no-any-return]  # NOQA: E501
  File "/usr/local/lib/python3.10/site-packages/pymysql/__init__.py", line 94, in Connect
    return Connection(*args, **kwargs)
  File "/usr/local/lib/python3.10/site-packages/pymysql/connections.py", line 327, in __init__
    self.connect()
  File "/usr/local/lib/python3.10/site-packages/pymysql/connections.py", line 588, in connect
    self._request_authentication()
  File "/usr/local/lib/python3.10/site-packages/pymysql/connections.py", line 874, in _request_authentication
    auth_packet = _auth.caching_sha2_password_auth(self, auth_packet)
  File "/usr/local/lib/python3.10/site-packages/pymysql/_auth.py", line 300, in caching_sha2_password_auth
    pkt = conn._read_packet()
  File "/usr/local/lib/python3.10/site-packages/pymysql/connections.py", line 676, in _read_packet
    packet.raise_for_error()
  File "/usr/local/lib/python3.10/site-packages/pymysql/protocol.py", line 223, in raise_for_error
    err.raise_mysql_exception(self._data)
  File "/usr/local/lib/python3.10/site-packages/pymysql/err.py", line 107, in raise_mysql_exception
    raise errorclass(errno, errval)
pymysql.err.OperationalError: (1049, "Unknown database 'bisheng'")

The above exception was the direct cause of the following exception:
```

解决方式：

进入MySQL容器，手动创建对应的database和table

进入bisheng-mysql容器：docker exec -it bisheng-mysql bash

登录mysql：mysql -u root -p （默认密码是1234）



bisheng.sql

以上sql执行成功后，重启backend容器！

6.5 端口冲突

如果docker-compose启动时遇到端口冲突问题，可以通过修改yml文件中映射的端口来解决

```
milvus:
  container_name: milvus-standalone
  image: cr.dataelem.com/bisheng-milvus:v2.3.21-linuxarm64
  command: ["milvus", "run", "standalone"]
  security_opt:
    - seccomp:unconfined
  environment:
    ETCD_ENDPOINTS: etcd:2379
    MINIO_ADDRESS: minio:9000
  volumes:
    - ${DOCKER_VOLUME_DIRECTORY:-.}/volumes/milvus:/var/lib/milvus
  healthcheck:
    test: ["CMD", "curl", "-f", "http://localhost:9091/healthz"]
    interval: 30s
    start_period: 90s
    timeout: 20s
    retries: 3
  ports:
    - "19530:19530"
    - "9091:9091"
  depends_on:
    - "etcd"
    - "minio"
```

修改以上部分为：xxx:19530（xxx替换为需要配置的端口号，范围1-65535）

6.6 其他典型错误及解决办法

（正在收集中。。。。。。）

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7. 维护指南

7.1 升级流程

- 需要升级BISHENG版本请按照官方文档进行操作：版本升级注意事项

8. 附录：

8.1 附录1：

代码块

```
#BISHENGS商业套件Gateway服务ARM镜像下载地址
docker  pull  cr.dataelem.com/bisheng-gateway:release-arm64
#部署文档
https://dataelem.feishu.cn/wiki/KNWrwK1DtiFli7klsLzczx7enNh?from=from_copylink
```