File system log appender

The file system log appender stores received logs into the local file system of the Operations server. This log appender may be used for test purposes or in pair with tools like Flume and others. Logs are stored in files under the `/$logsRootPath/tenant_$tenantId/application_$applicationId` folder, where `logsRootPath` is a configuration parameter, `tenantId` and `applicationId` are ids of the current tenant and the application respectively. Access to the logs is controlled via Linux file system permissions.

You can log in to the Operations server host and browse logs using the *kaa_log_user_$applicationToken* user name and the pubic key which is created as a part of the configuration.

Creating file system log appender in Admin UI

The easiest way to create a file system log appender for your application is by using Admin UI.

Creating file system log appender with REST API

It is also possible to create a file system log appender for your application by using REST API. The following example illustrates how to provision the file system log appender via REST API.

Configuration

The file system log appender configuration should match the following Avro schema.

Click here to expand...

```
{
    "namespace":"org.kaaproject.kaa.server.appenders.file.config.gen",
    "type":"record",
    "name":"FileConfig",
    "fields":[
        {
            "name":"publicKey",
            "displayName":"Public Key",
            "maxLength":1000,
            "default":"",
            "type":"string"
        },
        {
            "name":"logsRootPath",
            "displayName":"Logs root path",
            "default":"/kaa_log_uploads",
            "type":"string"
        },
        {
            "name":"rollingFileNamePatern",
            "displayName":"Rolling file name pattern",
            "default":"logFile.%d{yyyy-MM-dd}.log",
            "type":"string"
        },
        {
            "name":"rollingMaxHistory",
            "displayName":"Rolling max history",
            "default":30,
            "type":"int"
        },
        {
            "name":"triggerMaxFileSize",
            "displayName":"Trigger max file size",
            "default":"1GB",
            "type":"string"
        },
        {
            "name":"encoderPattern",
            "displayName":"Encoder pattern",
            "default":"%-4relative [%thread] %-5level %logger{35} - %msg%n",
            "type":"string"
        }
    ]
}
```

name	description
`publicKey`	Name of public key
`logsRootPath`	`Root path for logs`
`rollingFileNamePatern`	Pattern for creating file name
`rollingMaxHistory`	Max number for records in file

`triggerMaxFileSize`	Max size of file
`encoderPattern`	Pattern for encoder

The following configuration example matches the previous schema.

Click here to expand...

```
{
    "publicKey":"XXXXXXXXXXXXXXXXXXXXXXXXXX",
    "logsRootPath":"/kaa_log_uploads",
    "rollingFileNamePatern":"logFile.%d{yyyy-MM-dd}.log",
    "rollingMaxHistory":30,
    "triggerMaxFileSize":"1GB",
    "encoderPattern":"%-4relative [%thread] %-5level %logger{35} - %msg%n"
}
```

Administration

The following REST API call example illustrates how to create a new file system log appender.

```
curl -v -S -u devuser:devuser123 -X POST -H 'Content-Type: application/json'
-d'{"pluginClassName":
"org.kaaproject.kaa.server.appenders.file.appender.FileSystemLogAppender",
"applicationId": 119, "applicationToken": "91786338058670361194",
"jsonConfiguration":
"{\"publicKey\":\"XXXXXXXXXXXXXXXXXXXXXXXXXX\",\"logsRootPath\":\"/kaa_log_uploads\"
,\"rollingFileNamePatern\":\"logFile.%d{yyyy-MM-dd}.log\",\"rollingMaxHistory\":30,\
"triggerMaxFileSize\":\"1GB\",\"encoderPattern\":\"%-4relative [%thread] %-5level
%logger{35} - %msg%n\" }", "description": "New sample file system log appender",
"headerStructure": [ "KEYHASH","TIMESTAMP" ], "name": "New file system appender",
"maxLogSchemaVersion": 2147483647, "minLogSchemaVersion": 1, "tenantId": "70"}'
"http://localhost:8080/kaaAdmin/rest/api/logAppender" | python -mjson.tool
```

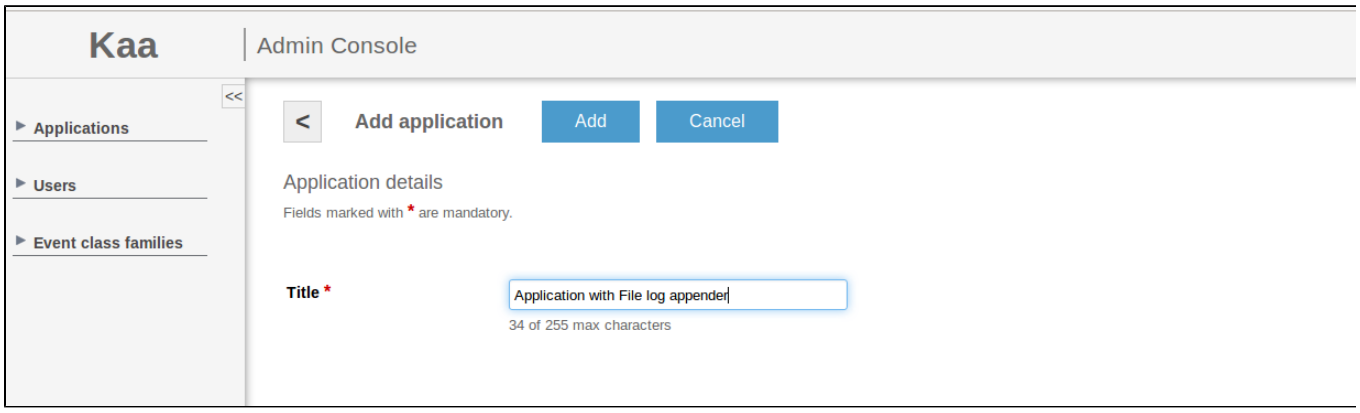
Example result

```
{
    "appenderClassName":
"org.kaaproject.kaa.server.appenders.file.appender.FileSystemLogAppender",
    "applicationId": "70",
    "applicationToken": "946558468095768",
    "configuration":
"{\"publicKey\":\"XXXXXXXXXXXXXXXXXXXXXXXXX\",\"logsRootPath\":\"/kaa_log_upload
s_new\",\"rollingFileNamePatern\":\"logFile.%d{yyyy-MM-dd}.log\",\"rollingMaxHist
ory\":30,\"triggerMaxFileSize\":\"1GB\",\"encoderPattern\":\"%-4relative
[%thread] %-5level %logger{35} - %msg%n\"}",
    "createdTime": 1417006362287,
    "createdUsername": "devuser",
    "description": "New sample file system log appender",
    "headerStructure": [
        "KEYHASH",
        "TIMESTAMP"
    ],
    "id": "161",
    "name": "New file system appender",
    "maxLogSchemaVersion": 2147483647,
    "minLogSchemaVersion": 1,
    "status": "REGISTERED",
    "tenantId": "10",
    "typeName": "File"
}
```

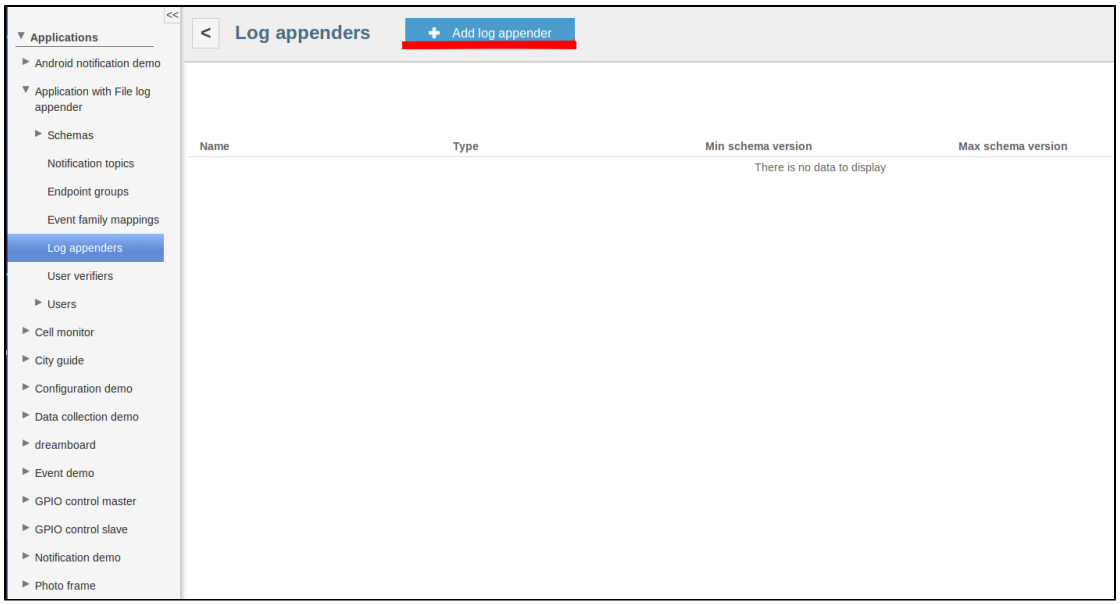

Using with File system log appender

You can create your application where you will use file system log appender

For this you should create application in Admin UI

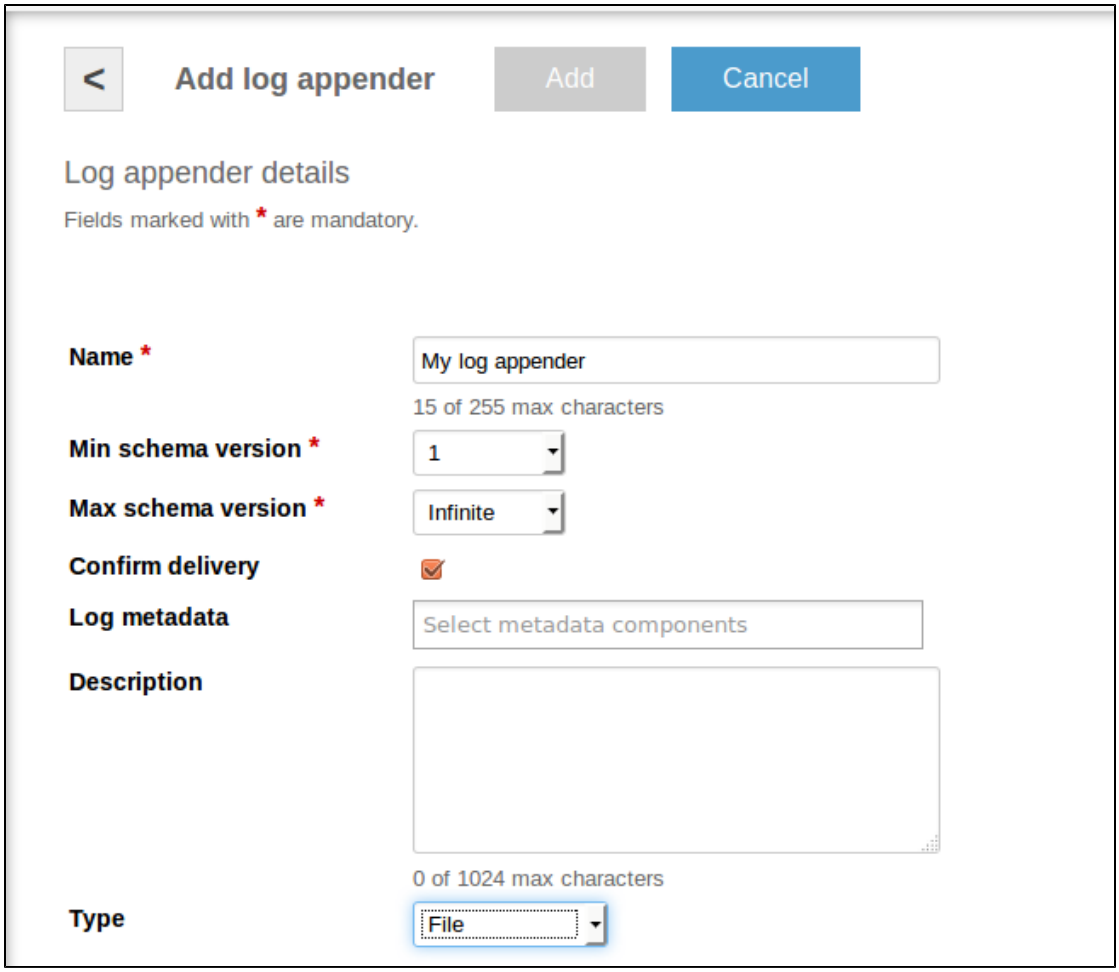


After that add new appender to your application

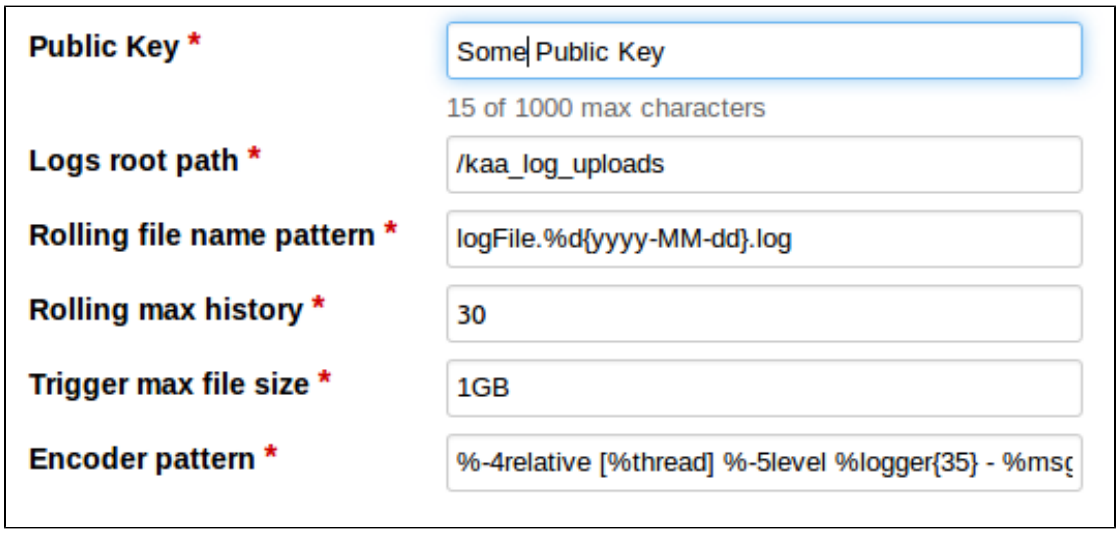


Enter name of the new appender

Select **File** appender type.

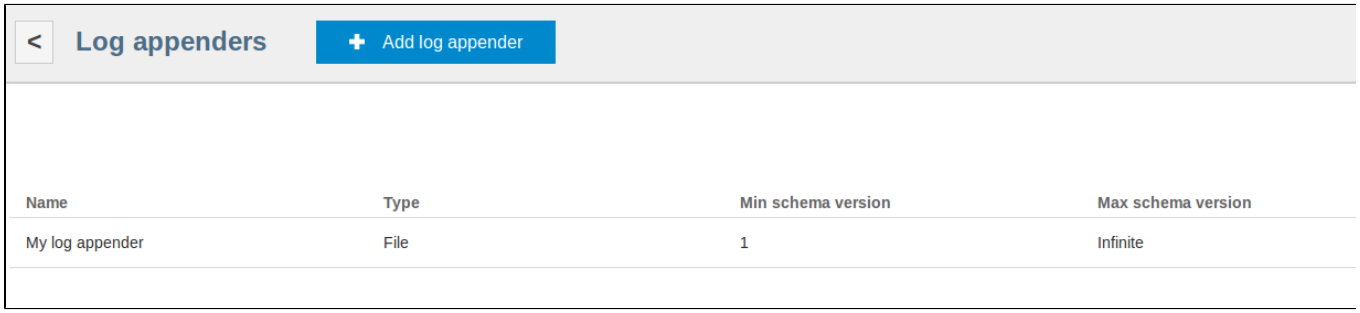

Add log appender
Add
Cancel
Log appender details
Fields marked with * are mandatory.
Name *
My log appender
15 of 255 max characters
Min schema version *
1
Max schema version *
Infinite
Confirm delivery
Log metadata
Select metadata components
Description
0 of 1024 max characters
Type
File

Add new parameters of configuration or replace old.

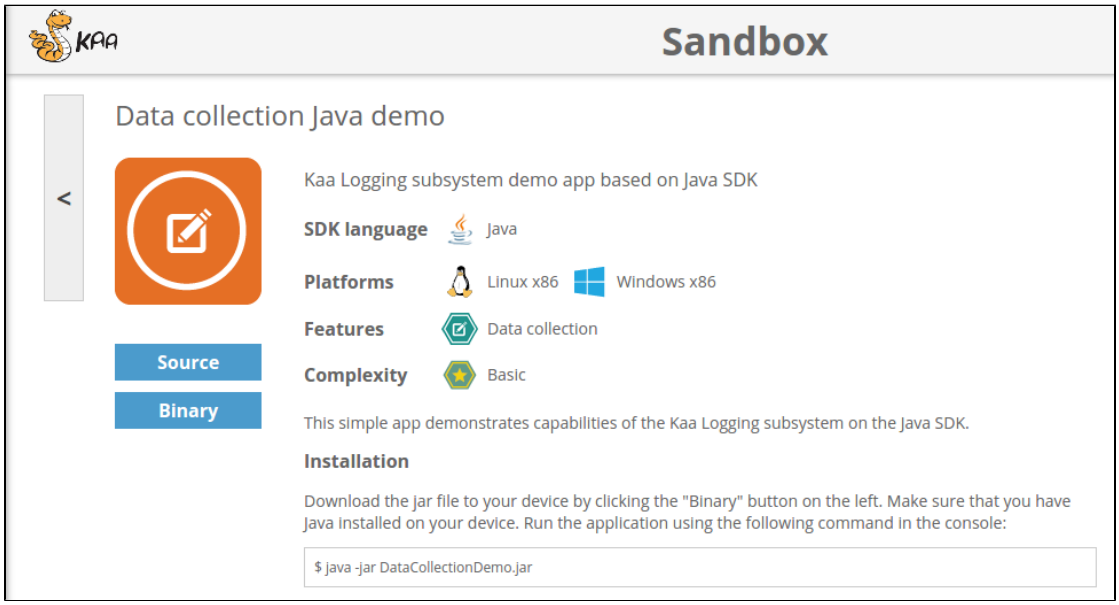


Now click **Add** button on the top of the screen to create and deploy appender.

Verify that newly created appender has appeared in list.



After that you can go to Data collection demos in Sandbox.



Run the application using the following command in the console:

```
$ java -jar DataCollectionDemo.jar
```

```
chvova@chvova:~/Downloads$  java -jar DataCollectionDemo.jar
2016-02-28 16:51:26,573 [main] INFO  o.k.k.d.d.DataCollectionDemo - Data collection de
2016-02-28 16:51:27,628 [pool-2-thread-1] INFO  o.k.k.d.d.DataCollectionDemo - Kaa cli
2016-02-28 16:51:27,633 [main] INFO  o.k.k.d.d.DataCollectionDemo - Log record {"level
2016-02-28 16:51:27,634 [main] INFO  o.k.k.d.d.DataCollectionDemo - Log record {"level
2016-02-28 16:51:27,634 [main] INFO  o.k.k.d.d.DataCollectionDemo - Log record {"level
2016-02-28 16:51:27,635 [main] INFO  o.k.k.d.d.DataCollectionDemo - Log record {"level
2016-02-28 16:51:27,635 [main] INFO  o.k.k.d.d.DataCollectionDemo - Log record {"level
2016-02-28 16:51:29,191 [main] INFO  o.k.k.d.d.DataCollectionDemo - Received log recor
2016-02-28 16:51:29,191 [main] INFO  o.k.k.d.d.DataCollectionDemo - Received log recor
2016-02-28 16:51:29,191 [main] INFO  o.k.k.d.d.DataCollectionDemo - Received log recor
2016-02-28 16:51:29,191 [main] INFO  o.k.k.d.d.DataCollectionDemo - Received log recor
2016-02-28 16:51:29,192 [main] INFO  o.k.k.d.d.DataCollectionDemo - Received log recor
2016-02-28 16:51:29,193 [pool-2-thread-1] INFO  o.k.k.d.d.DataCollectionDemo - Kaa cli
2016-02-28 16:51:29,197 [main] INFO  o.k.k.d.d.DataCollectionDemo - Data collection de
```

This logs you can fined in /kaa_log_uploads/tenant_'number of tenant'/application_'your_application_token'/application.log

In this example /kaa_log_uploads/tenant_70/application_46527342666485986401/application.log

```
5172492 [EPS-log-dispatcher-10] INFO  70.46527342666485986401 -
{"Log Header": "{"endpointKeyHash":null,"applicationToken":null,"headerVersion":null,"t
"Event": {"level":"KAA_INFO","tag":"TAG","message":"MESSAGE_0"}}
5172502 [EPS-log-dispatcher-10] INFO  70.46527342666485986401 -
{"Log Header": "{"endpointKeyHash":null,"applicationToken":null,"headerVersion":null,"t
"Event": {"level":"KAA_INFO","tag":"TAG","message":"MESSAGE_1"}}
5172502 [EPS-log-dispatcher-10] INFO  70.46527342666485986401 -
{"Log Header": "{"endpointKeyHash":null,"applicationToken":null,"headerVersion":null,"t
"Event": {"level":"KAA_INFO","tag":"TAG","message":"MESSAGE_2"}}
5172502 [EPS-log-dispatcher-10] INFO  70.46527342666485986401 -
{"Log Header": "{"endpointKeyHash":null,"applicationToken":null,"headerVersion":null,"t
"Event": {"level":"KAA_INFO","tag":"TAG","message":"MESSAGE_3"}}
5172502 [EPS-log-dispatcher-10] INFO  70.46527342666485986401 -
{"Log Header": "{"endpointKeyHash":null,"applicationToken":null,"headerVersion":null,"t
"Event": {"level":"KAA_INFO","tag":"TAG","message":"MESSAGE_4"}}
```