How to integrate FIXEdge with Splunk

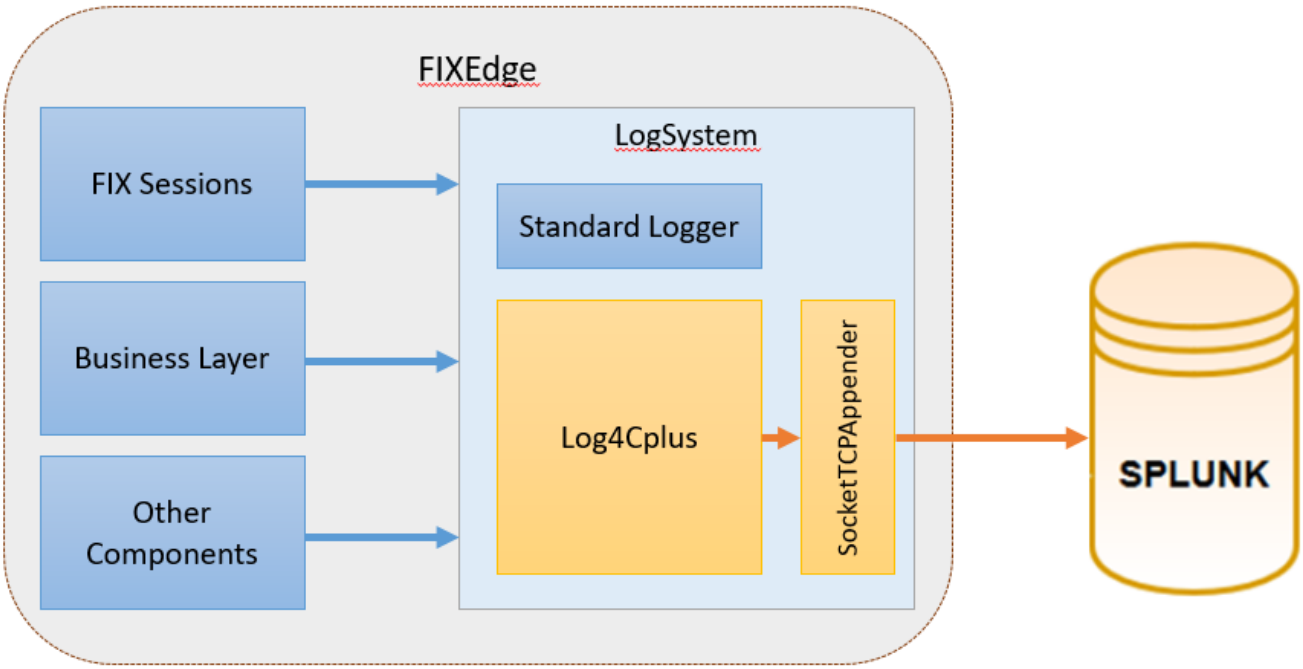
Features

Integration with Splunk supports the following features:

- Log messages forwarding to the Splunk
- Connection with Splunk is supported over TCP
- Splunk agent can be used
- Configurable timestamp

Interaction model

Interaction between FIX engine and Splunk/Splunk agent is maintained via Log4Cplus library:



The described functionality was successfully tested with version 7.2.0 of Splunk

Configuring

1. Upgrade software

Upgrade FEdge to version 6.7 or FA to version 2.26. If you are using FA rebuild your application with the new version of FA.

2. Configure Logging

To forward log messages to Splunk specify **Log4Cplus** for Log.Device property in *FIXEdge.properties* (for FIXEdge) or *engine.properties* (for FIXAntenna) file and configure `log4cplus` parameters as follows:

FIXEdge.properties or engine.properties changes

```
# add Log4Cplus device for duplication logs to the log4cplus
Log.Device = File Log4Cplus

#------------- configure log4plus for forwarding to the Splunk ----------------------
log4cplus.rootLogger = TRACE,Splunk
log4cplus.appender.Splunk=log4cplus::SocketTCPAppender
#set host/port Splunk
log4cplus.appender.Splunk.port=<PORT>
log4cplus.appender.Splunk.host=<HOST>
# using pattern for add information in log messages about
log4cplus.appender.Splunk.layout=log4cplus::PatternLayout
log4cplus.appender.Splunk.layout.ConversionPattern=%d{%FT%T.%q}Z Severity=%-5p ThreadID=%t Category=%c %m%n
```

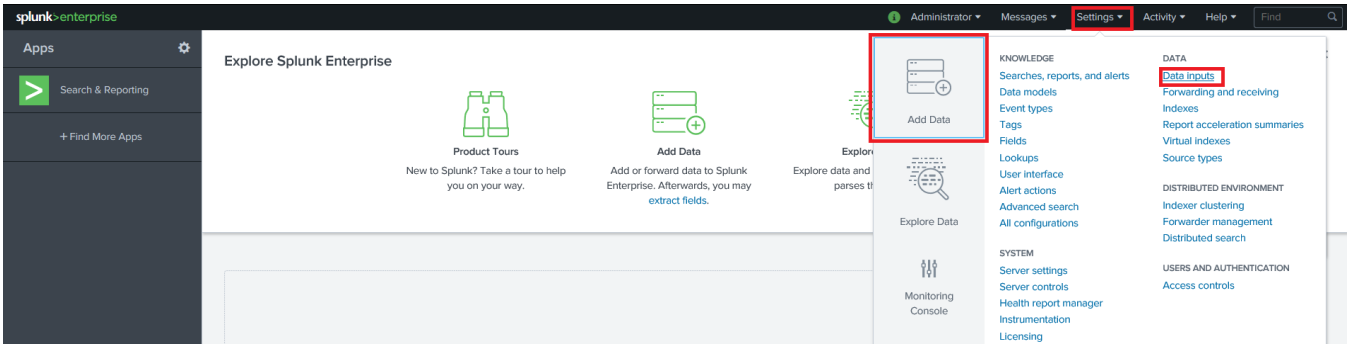
In this case logging will be performed with both creating standard log files and forwarding to Splunk (**`Log.Device = File Log4Cplus`** - see description of Log.Device parameter).

Also the example contains configuration of an extended log layout that includes severity, threadID and other additional fields (**`log4cplus.appender.Splunk.layout`** parameter).

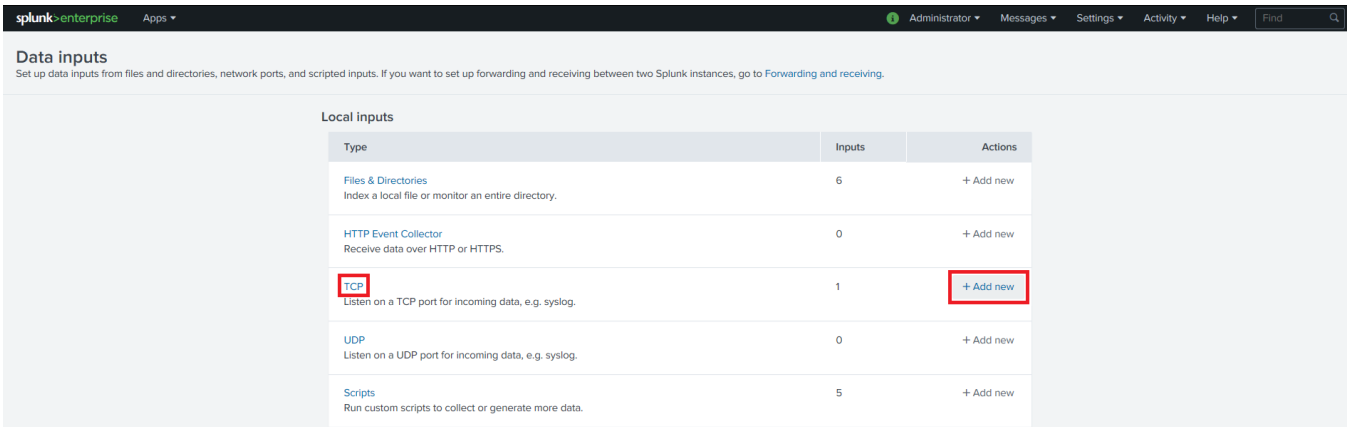
More information about log4cplus configuration can be found here Log4Cplus Usage

3. Configure Splunk

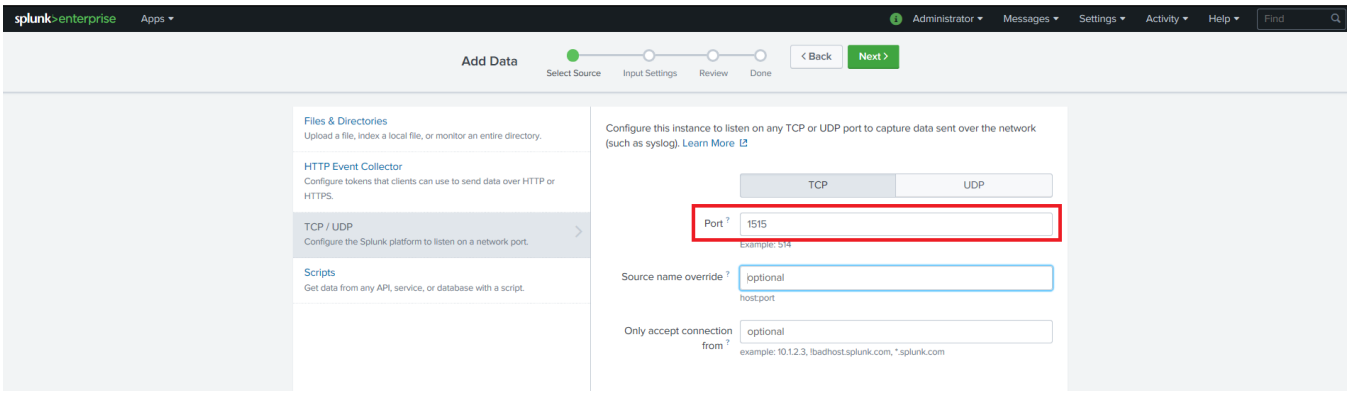
1. In Splunk Web interface configure inputs (From Splunk Home, select **Settings Add Data Data inputs**):



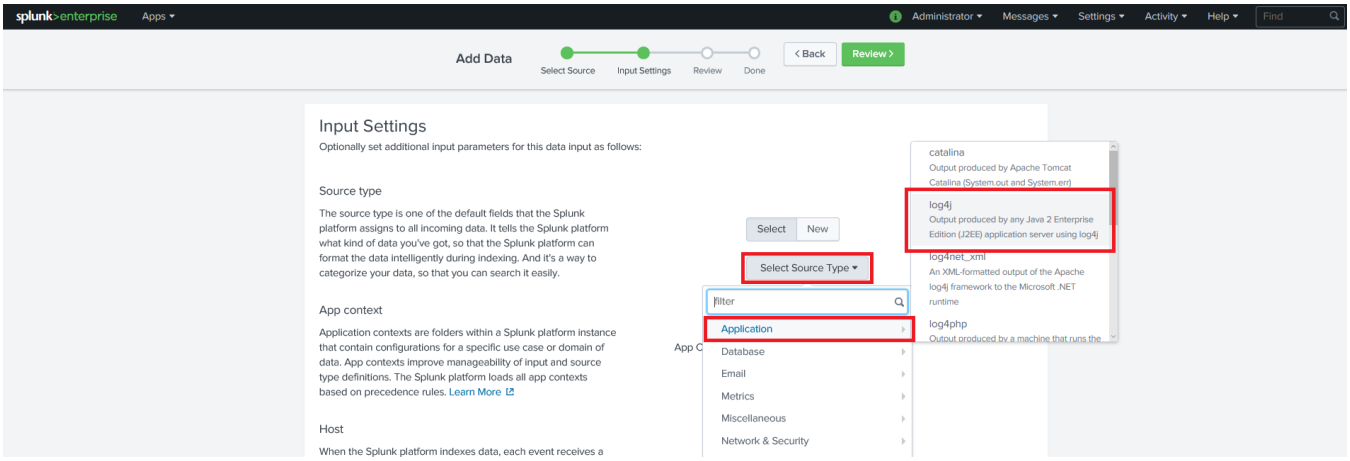
2. Add new input to TCP (From Data inputs, select **TCP Add new**):



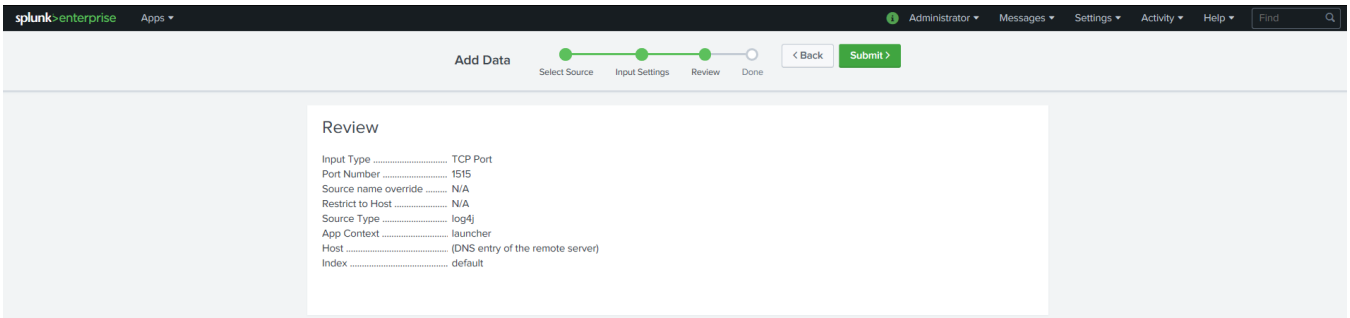
3. Select data source - choose listening port (the same port number should be set in FIXEdge.properties *log4cplus.appender.Splunk.port* parameter) and then click "**Next**":



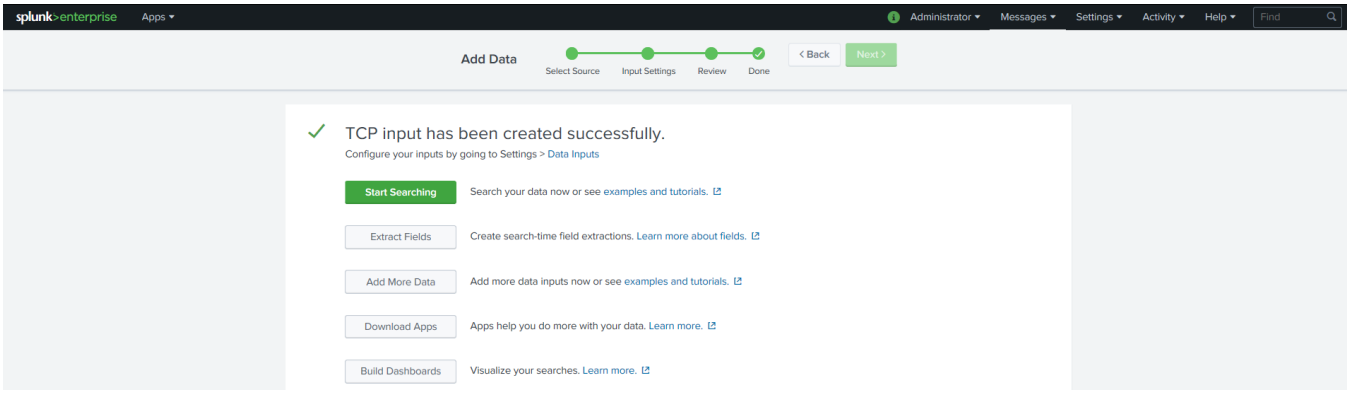
4. Configure input settings - **Select source type Application log4j** and then click "**Review**":



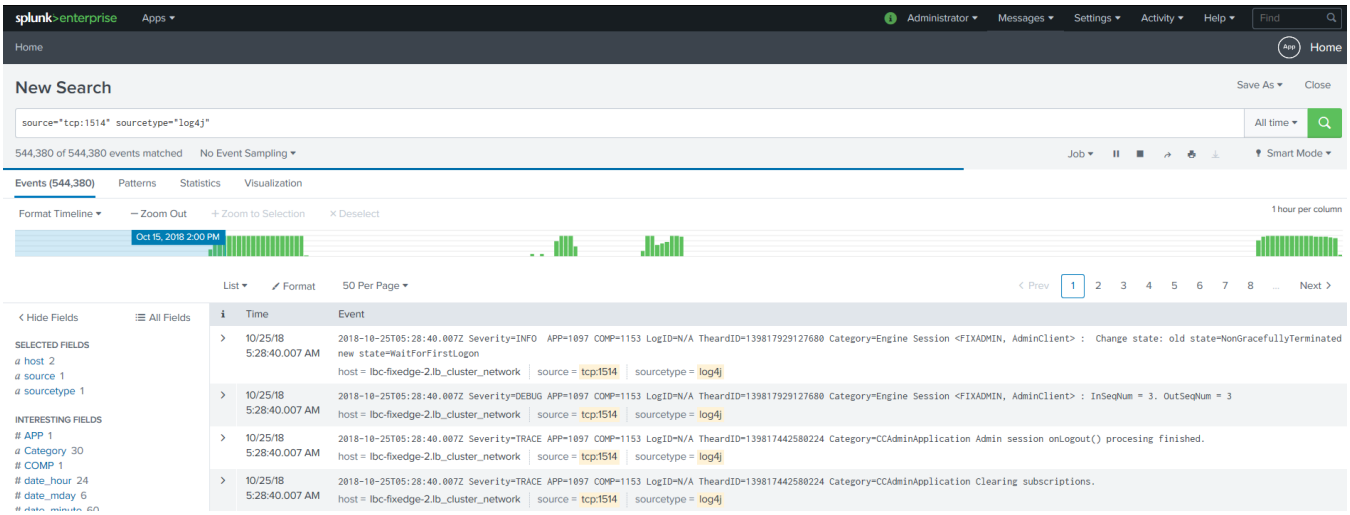
5. Check out configuration and click "**Submit**":



6. Click "**Start Searching**":



7. After starting FIXEdge session you will see FIXEdge logging in Splunk:


splunk>enterprise
Apps
Administrator
Messages
Settings
Activity
Help
Find
Home
Home
New Search
Save As
Close
source="tcp:1514" sourcetype="log4j"
All time
544,380 of 544,380 events matched
No Event Sampling
Job
Smart Mode
Events (544,380)
Patterns
Statistics
Visualization
Format Timeline
Zoom Out
Zoom to Selection
Deselect
1 hour per column
Oct 15, 2018 2:00 PM
List
Format
50 Per Page
Prev
1
2
3
4
5
6
7
8
Next
Hide Fields
All Fields
SELECTED FIELDS
a host 2
a source 1
a sourcetype 1
INTERESTING FIELDS
APP 1
a Category 30
COMP 1
date_hour 24
date_mday 6
Time
Event
10/25/18 5:28:40.007 AM
2018-10-25T05:28:40.007Z Severity=INFO APP=1097 COMP=1153 LogID=N/A TheardID=139817929127680 Category=Engine Session <FIXADMIN, AdminClient> : Change state: old state=NonGracefullyTerminated new state=WaitForFirstLogon
host = lbc-fixedge-2.lb_cluster_network
source = tcp:1514
sourcetype = log4j
10/25/18 5:28:40.007 AM
2018-10-25T05:28:40.007Z Severity=DEBUG APP=1097 COMP=1153 LogID=N/A TheardID=139817929127680 Category=Engine Session <FIXADMIN, AdminClient> : InSeqNum = 3. OutSeqNum = 3
host = lbc-fixedge-2.lb_cluster_network
source = tcp:1514
sourcetype = log4j
10/25/18 5:28:40.007 AM
2018-10-25T05:28:40.007Z Severity=TRACE APP=1097 COMP=1153 LogID=N/A TheardID=139817442580224 Category=CCAdminApplication Admin session onLogout() procesing finished.
host = lbc-fixedge-2.lb_cluster_network
source = tcp:1514
sourcetype = log4j
10/25/18 5:28:40.007 AM
2018-10-25T05:28:40.007Z Severity=TRACE APP=1097 COMP=1153 LogID=N/A TheardID=139817442580224 Category=CCAdminApplication Clearing subscriptions.
host = lbc-fixedge-2.lb_cluster_network
source = tcp:1514
sourcetype = log4j