How to integrate FIXEdge with Splunk

The feature is available in FIXEdge version 6.7.0 and higher or in Fix Antenna C++ version 2.26 and higher.

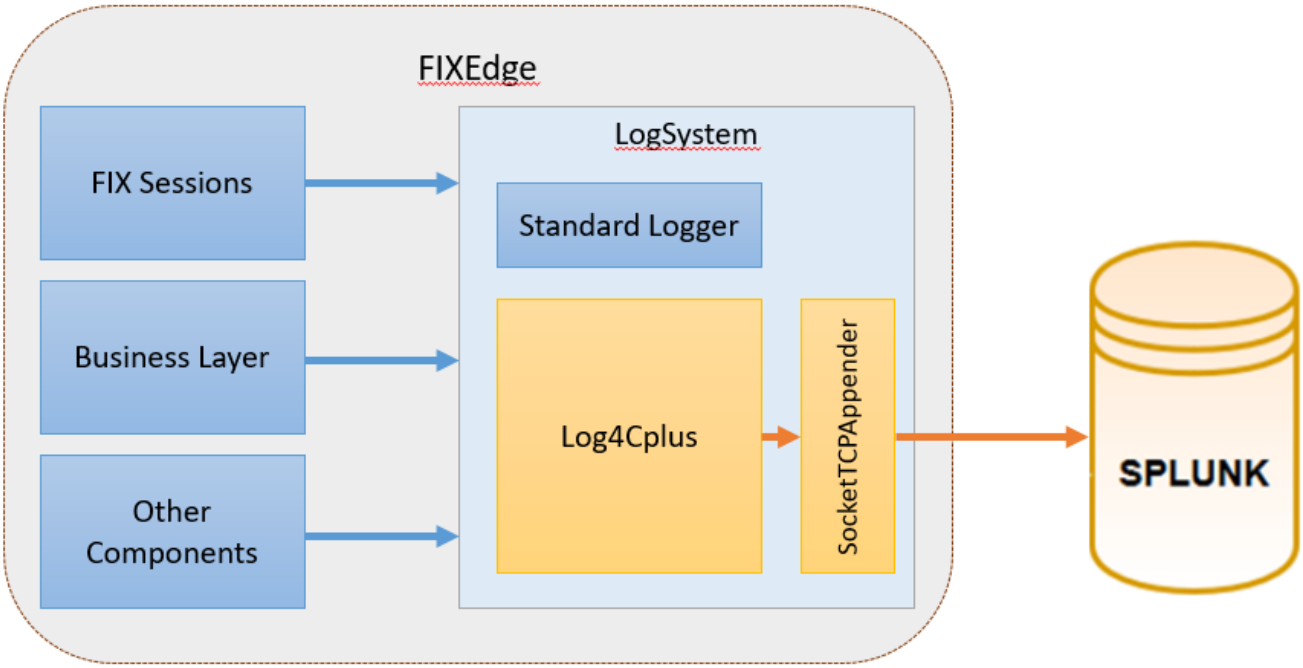
Features

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. 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
```

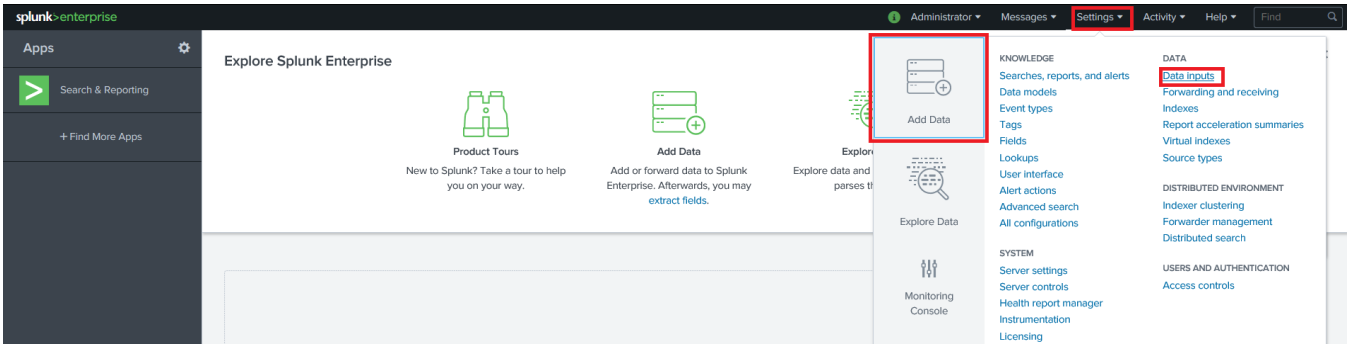
In this case logging will be performed with both creating standard log files and forwarding to Splunk (**`Log.Device = File Log4Cplus`** - see description of Log.Device parameter).

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

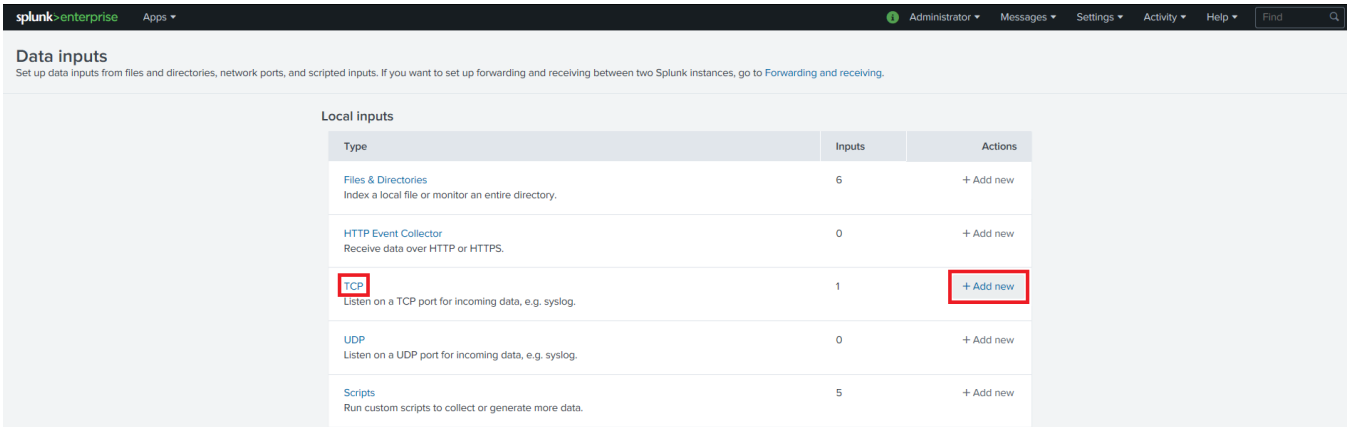
More information about log4cplus configuration can be found here Log4Cplus Usage

2. Configure Splunk

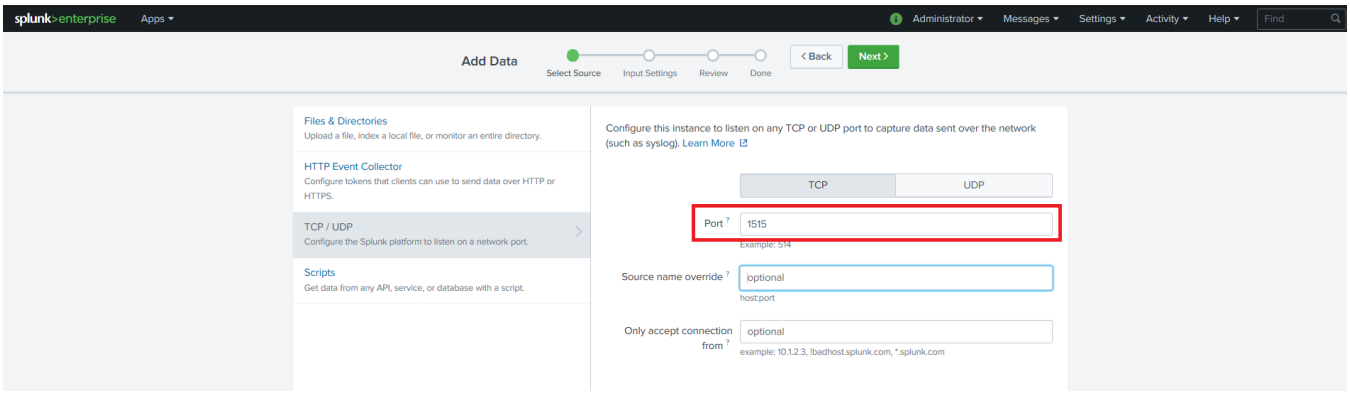
1. In Splunk Web interface configure inputs (From Splunk Home, select **Settings Add Data Data inputs**):



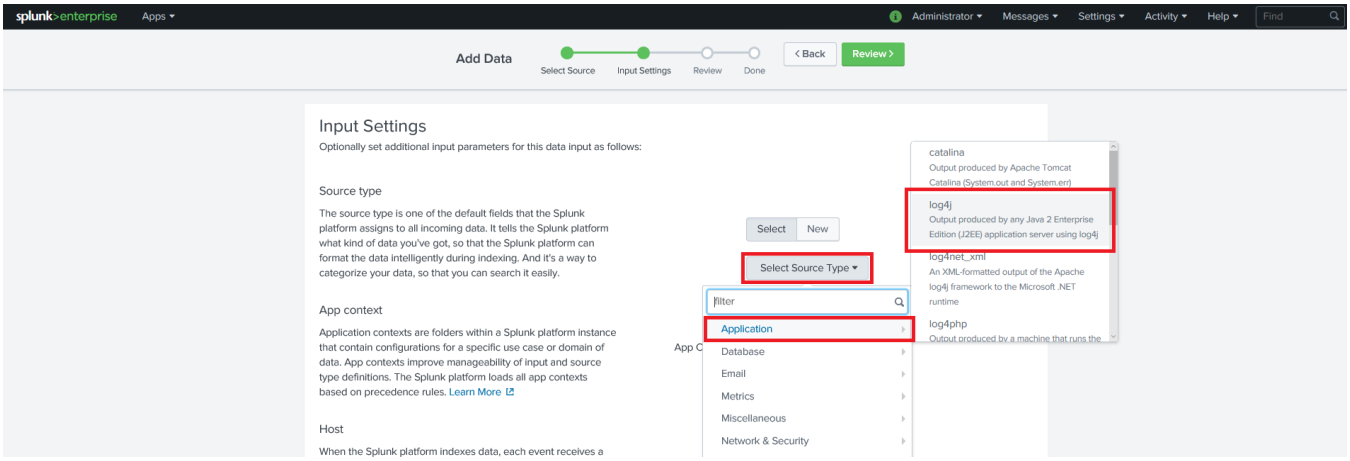
2. Add new input to TCP (From Data inputs, select **TCP Add new**):



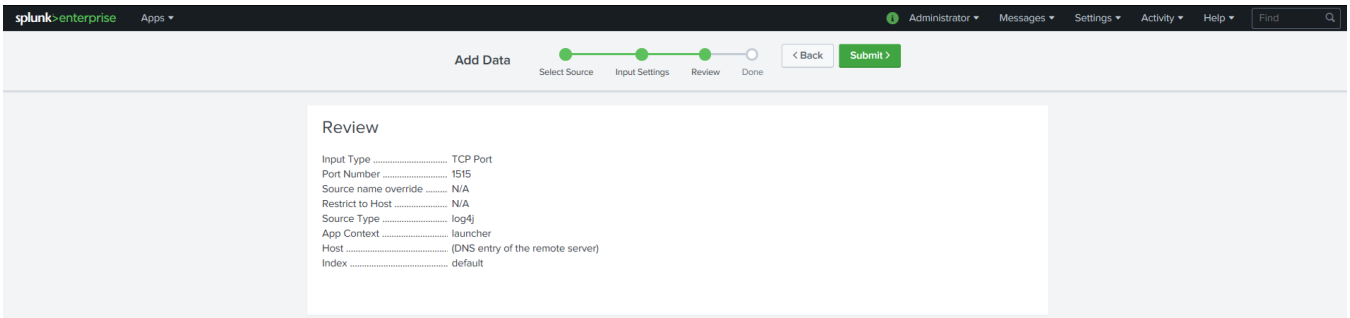
3. Select data source - choose listening port (the same port number should be set in FIXEdge.properties *log4cplus.appender.Splunk.port* parameter) and then click "**Next**":



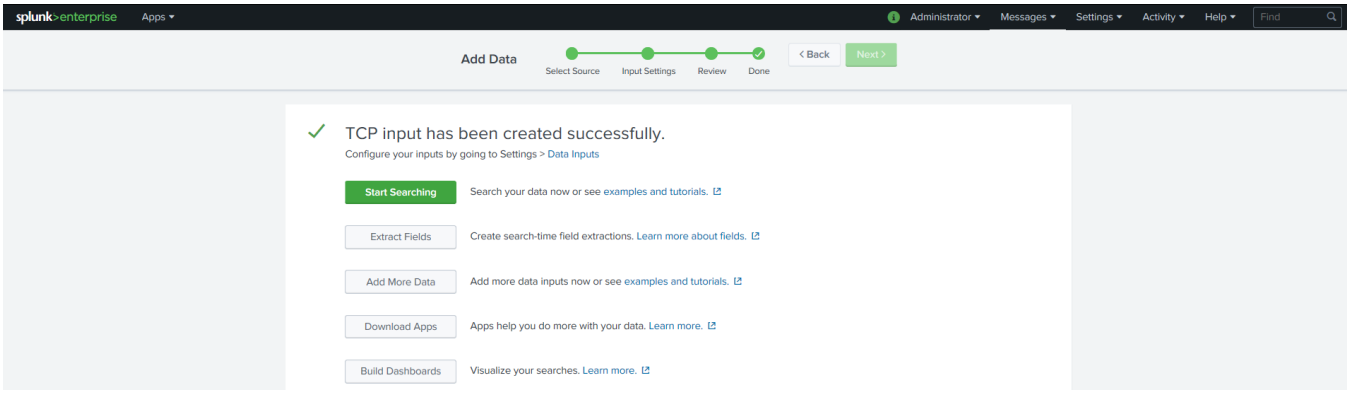
4. Configure input settings - **Select source type Application log4j** and then click "**Review**":



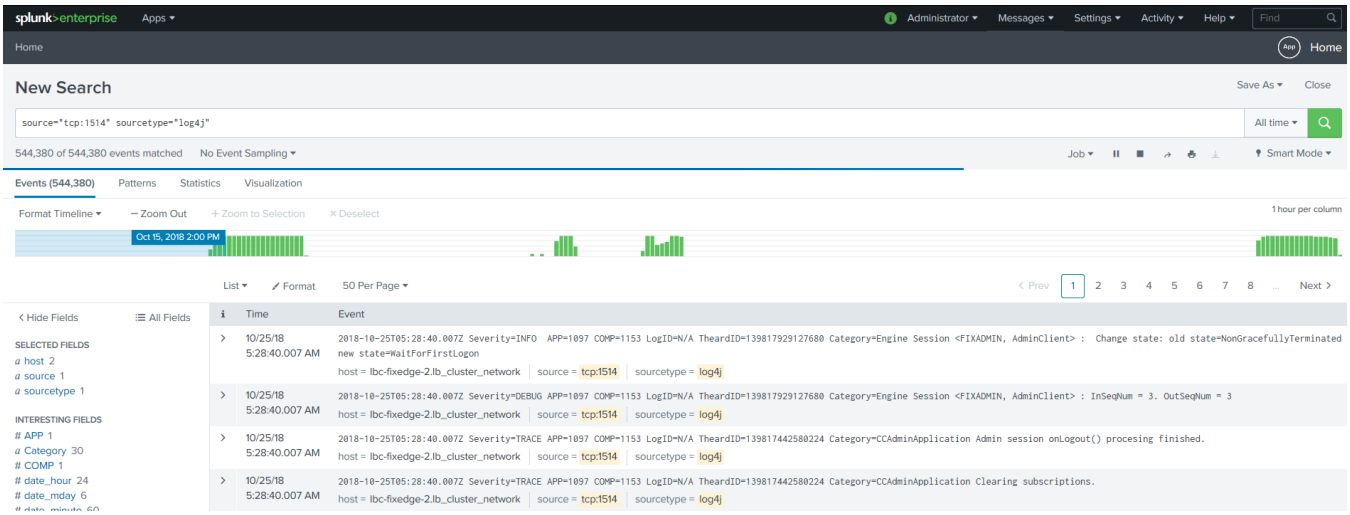
5. Check out configuration and click "**Submit**":



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