

Appenders

Jim Christopher
@beefarino



ASP.NET Trace
Appender

SMTP Appender

Forwarding Appender

File Appender

UDP Appender

Console Appender

Event Log Appender

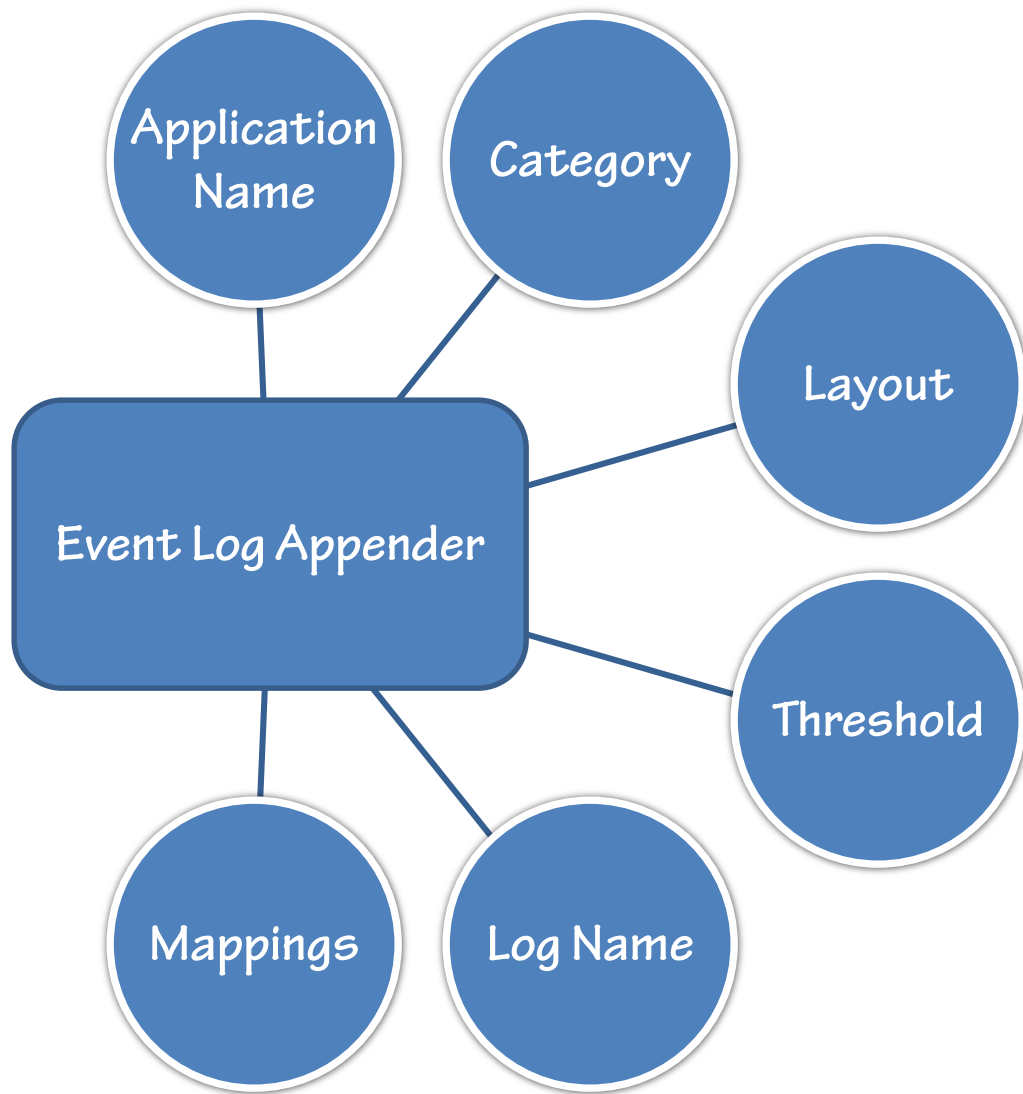
Remoting Appender

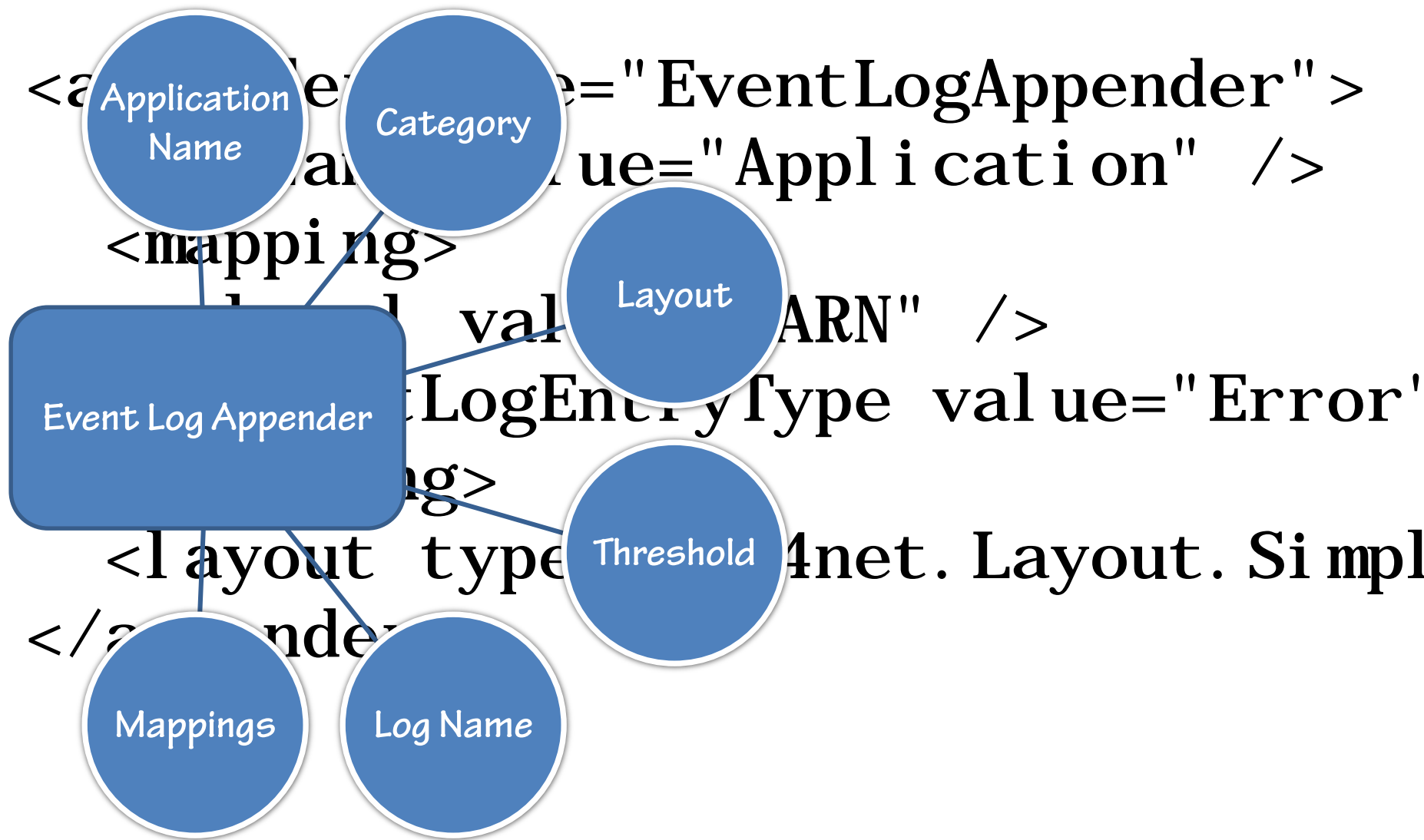
Rolling File Appender

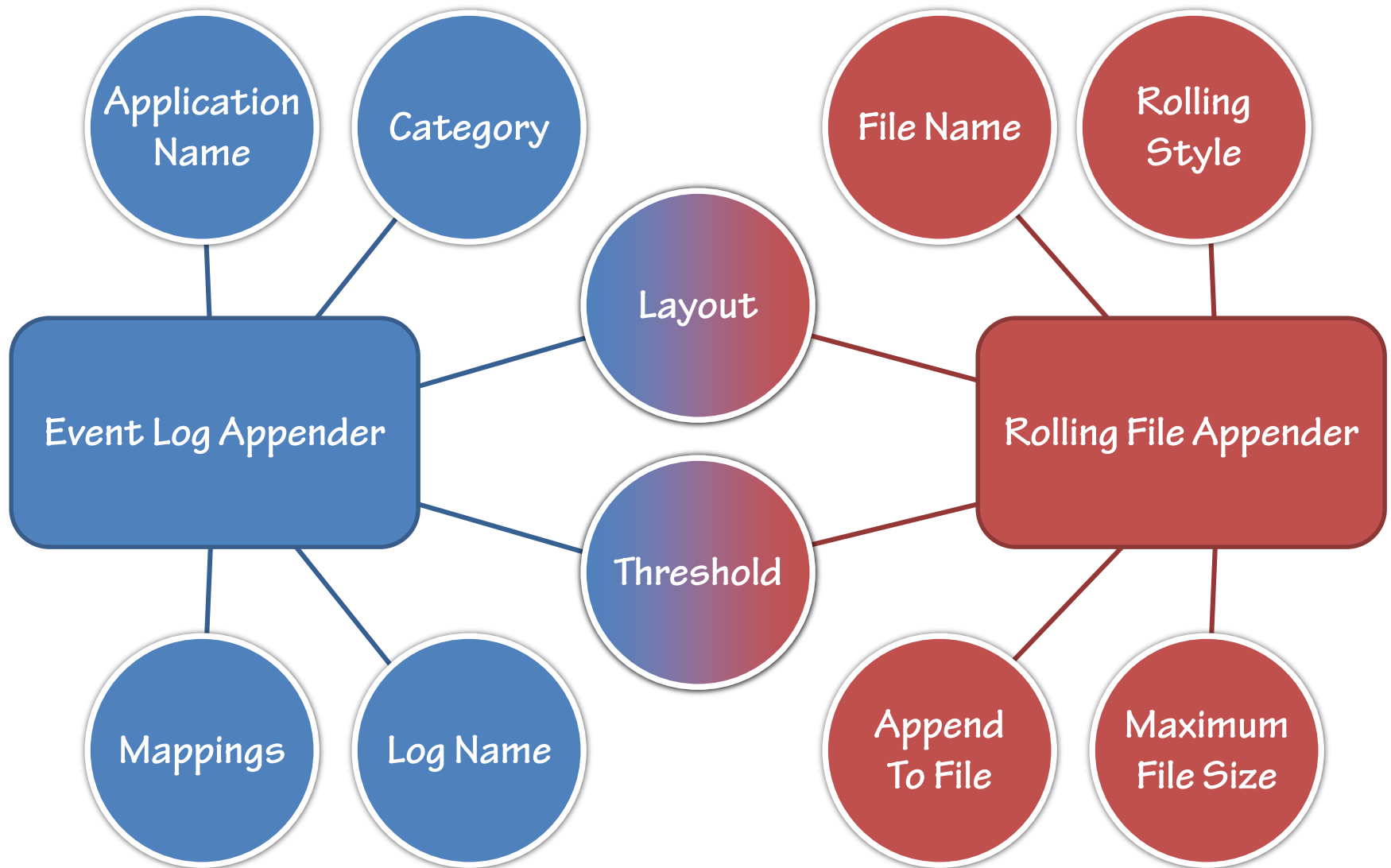
Telnet Appender

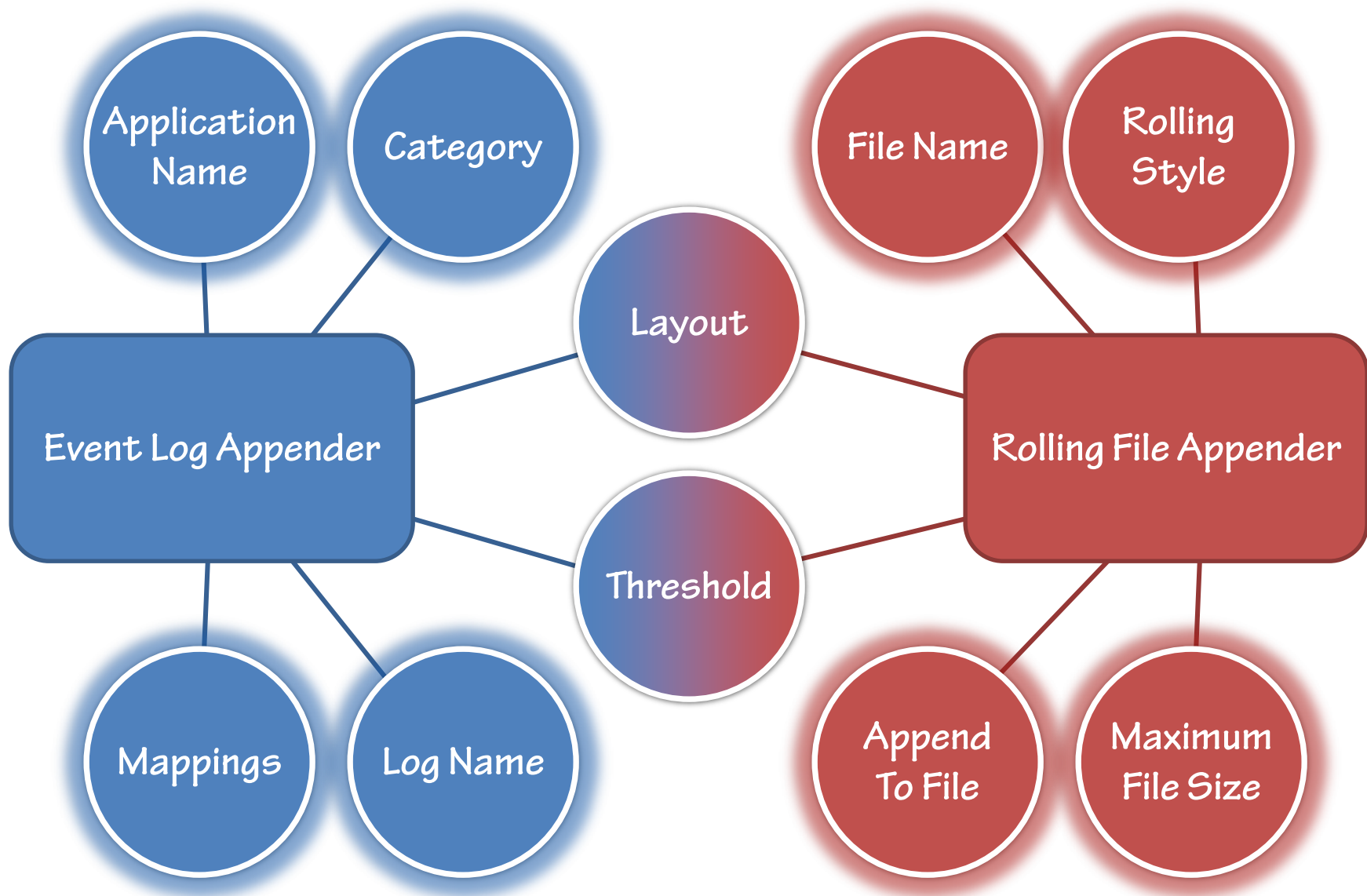
ADO.NET Appender

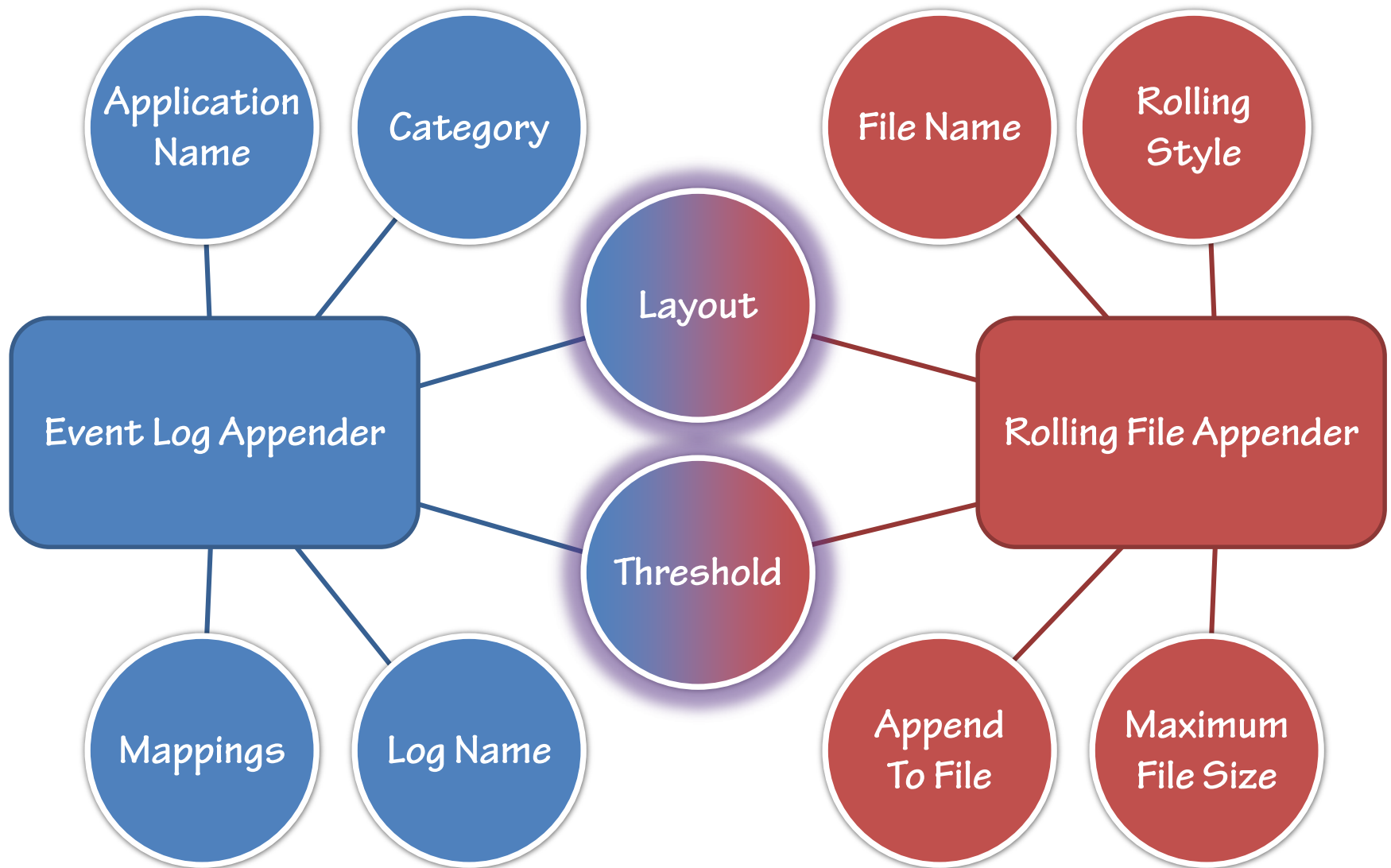
Debug Appender











Shared Appender Properties

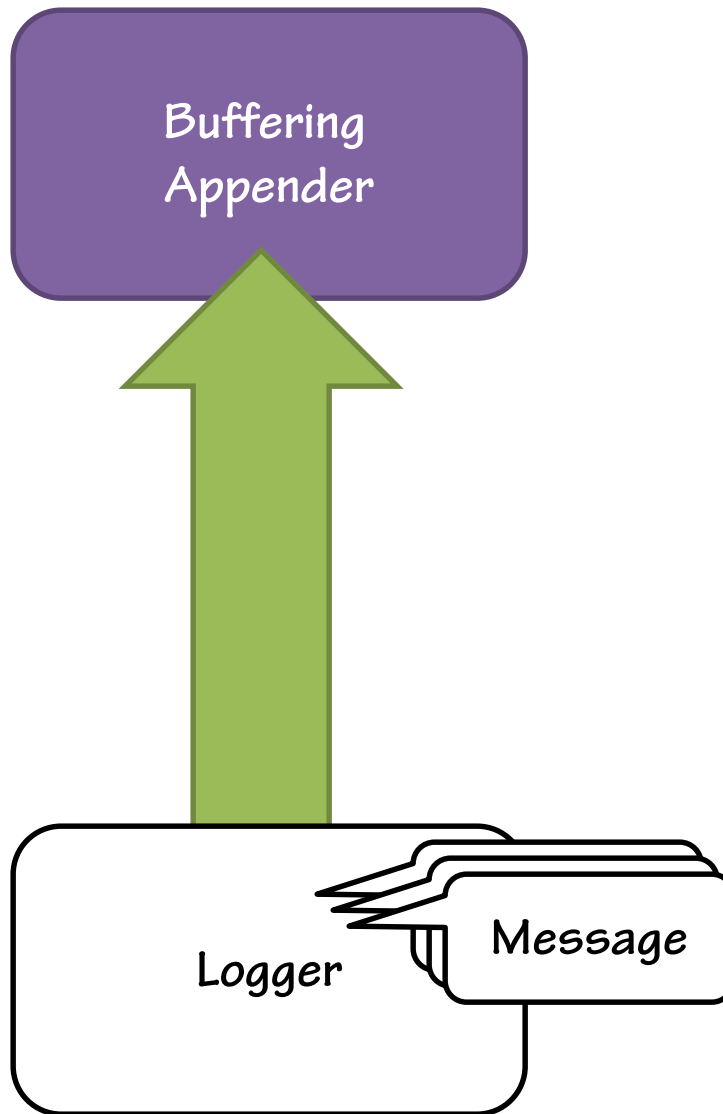
Threshold

- Minimum logging level to process
- `Logger.Level` property

Layout

Filter

Buffering Appenders



Buffering Appender Properties

BufferSize

- Number of log events to buffer
- Defaults to 512

Fix

Lossy

Evaluator

Configuration Examples

<http://bit.ly/Zn3s3>

Console Appenders



Console Appender

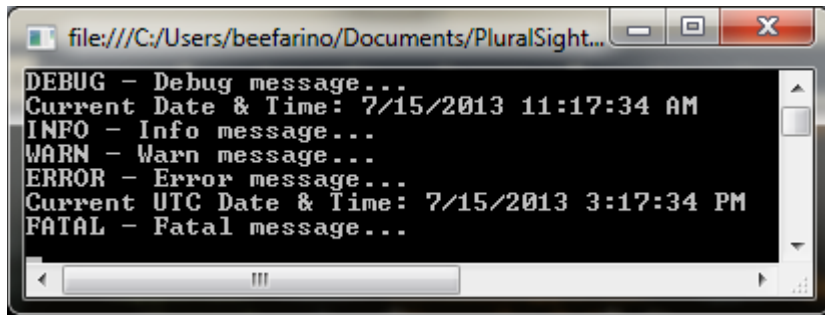


Colored Console
Appender

Console Appender Properties

Target

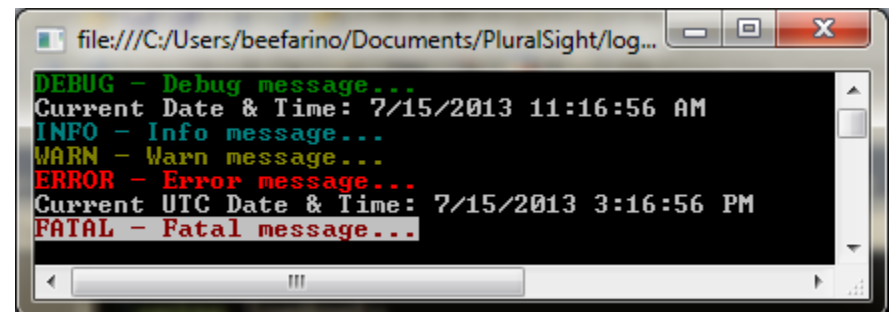
- **Console.Out (default)**
- **Console.Error**



```
file:///C:/Users/beefarino/Documents/PluralSight...  
DEBUG - Debug message...  
Current Date & Time: 7/15/2013 11:17:34 AM  
INFO - Info message...  
WARN - Warn message...  
ERROR - Error message...  
Current UTC Date & Time: 7/15/2013 3:17:34 PM  
FATAL - Fatal message...
```

Console Appender

Colored Console
Appender



```
file:///C:/Users/beefarino/Documents/PluralSight/log...  
DEBUG - Debug message...  
Current Date & Time: 7/15/2013 11:16:56 AM  
INFO - Info message...  
WARN - Warn message...  
ERROR - Error message...  
Current UTC Date & Time: 7/15/2013 3:16:56 PM  
FATAL - Fatal message...
```

Colored Console Appender Properties

Target

- **Console.Out**
- **Console.Error**

Blue

Green

Red

White

Mapping

- **Backcolor**
- **Forecolor**
- **Level**

Yellow

Purple

Cyan

Debug and Trace Appenders

An orange rounded rectangle with a thin brown border.

System.Diagnostics.Debug.WriteLine

Debug Appender

A red rounded rectangle with a thin brown border.

System.Diagnostics.Trace.WriteLine

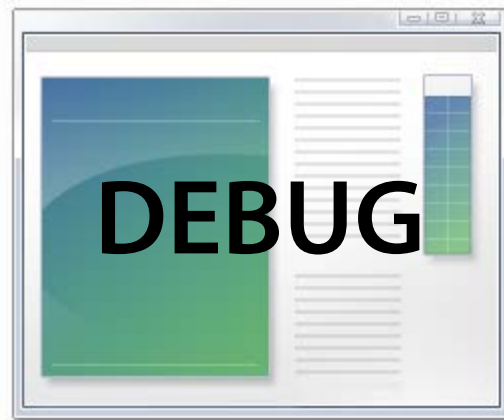
Trace Appender

System. Di agnosti cs. Debug. Wri te

System. Di agnosti cs. Trace. Wri te

Debug Appender

Trace Appender



System. Di agnosti cs. Debug. Wri te

System. Di agnosti cs. Trace. Wri te

Debug Appender

Trace Appender



System. Di agnosti cs. Debug. Wri te

System. Di agnosti cs. Trace. Wri te

Debug Appender

Trace Appender



Debug Appender Properties

ImmediateFlush

- True to flush the appender after each message

Trace Appender Properties

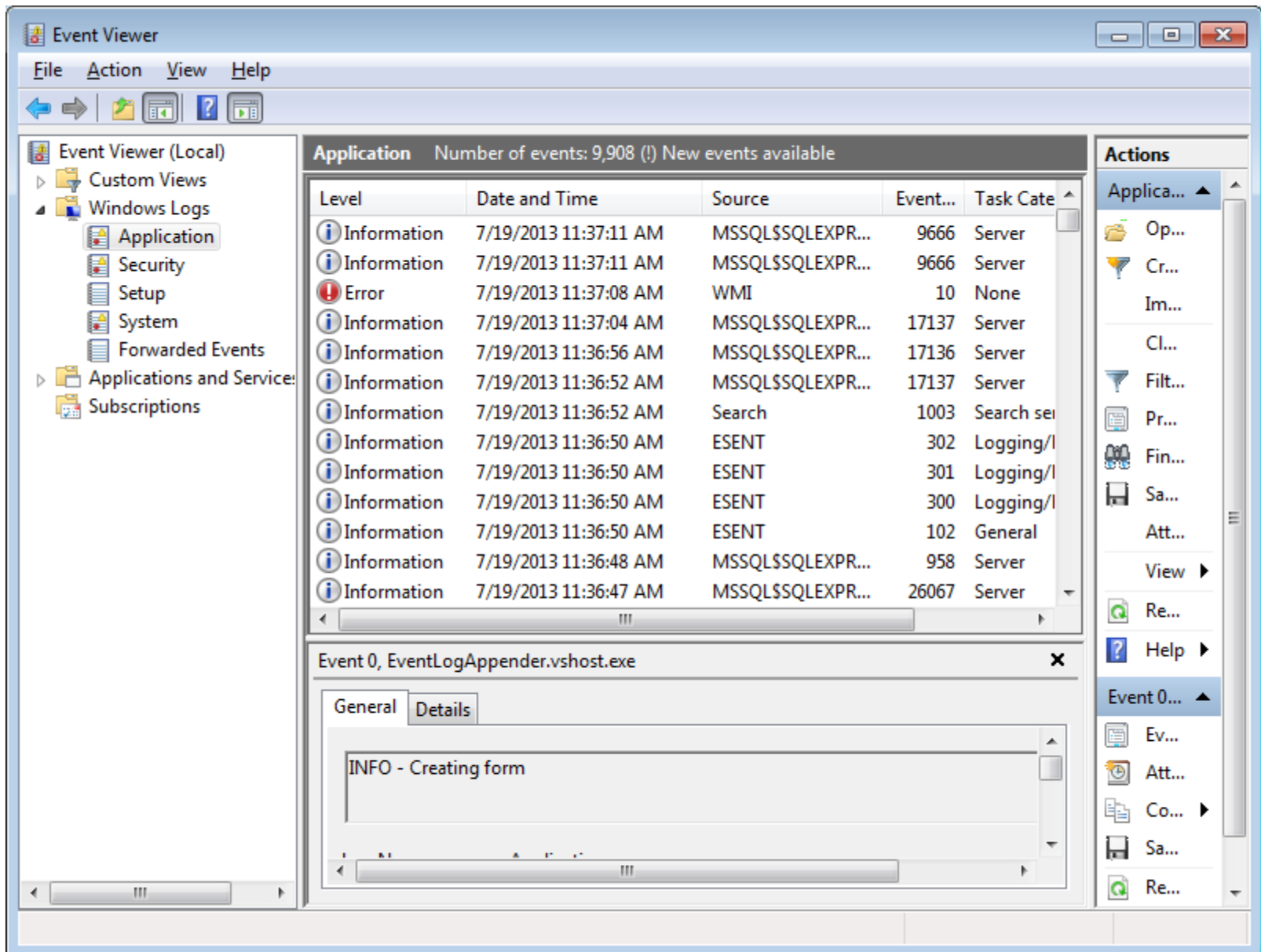
ImmediateFlush

- True to flush the appender after each message

Category

- Category to use in `Trace.Write()`
- Defaults to logger name

Event Log Appender



Event Log Appender Properties

Log Name

- Name of the event log to use
- Defaults to "Application"

Application Name

- Name of the event source
- Defaults to application name

Category

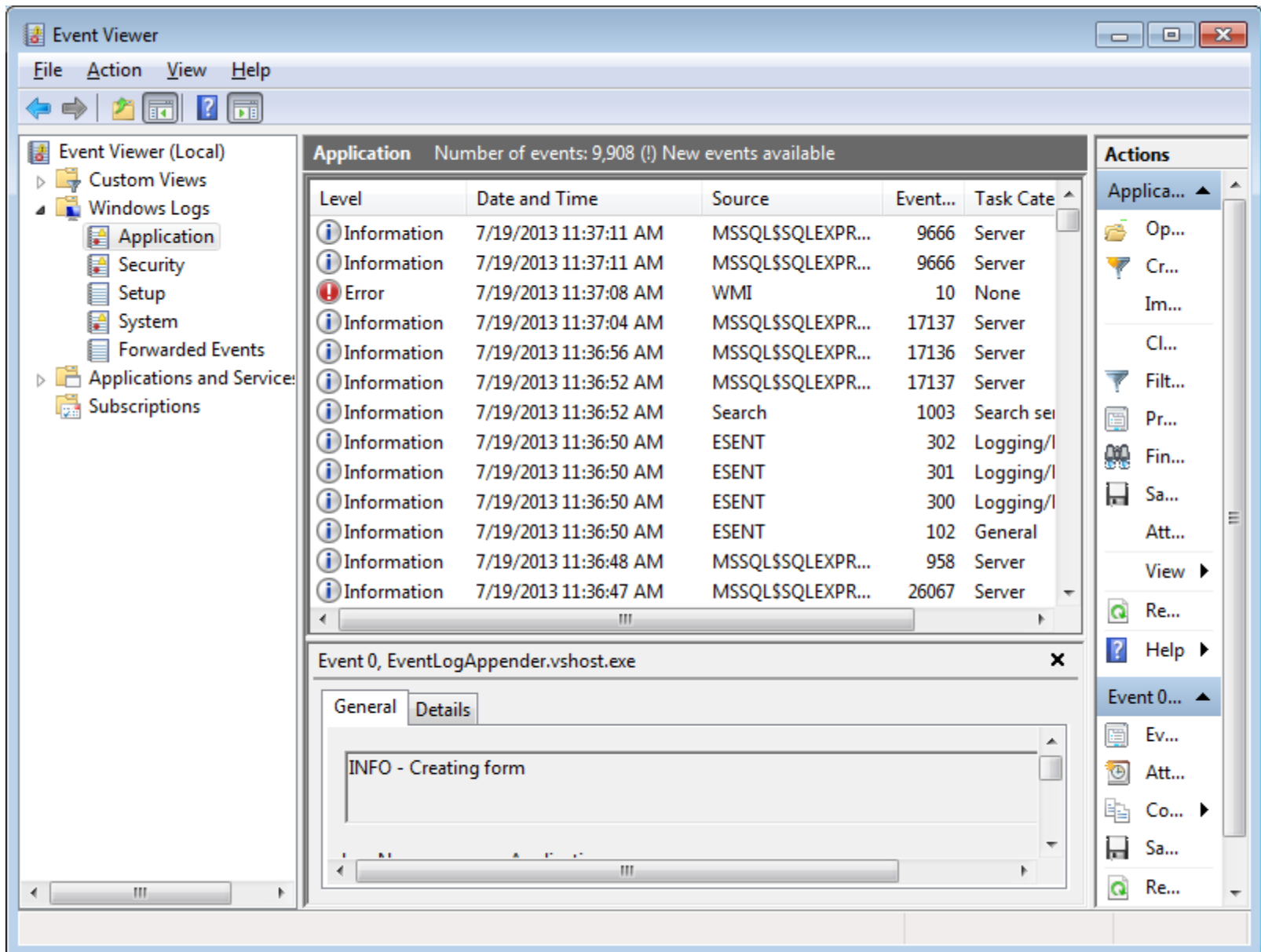
- Sets the event log category

EventID

- EventID to use for the event

Mapping

- Event Log Entry Type
- Log Level



Log Level

Event Log Level

DEBUG



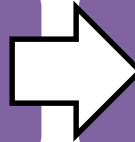
Information

INFO



Information

WARN



Warning

ERROR



Error

FATAL

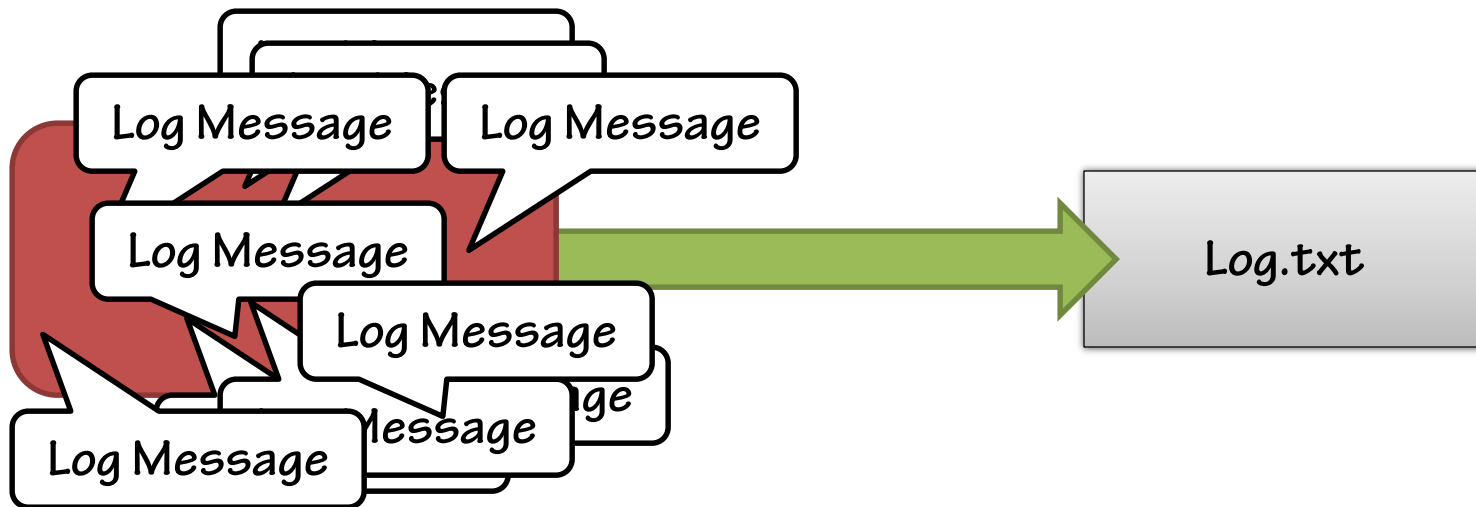


Error



**ONLY AN
ADMINISTRATOR
CAN CREATE AN
EVENT SOURCE**

File Appender



File Appender Properties

File

- Path to the log file

Encoding

- Name of the encoding to use for the log file

AppendToFile

- When true, log will be appended.
- When false, log is overwritten at application start.

LockingModel

- The locking model to use for the file
- ExclusiveLock (default), MinimalLock, InterProcessLock

LockingModel Values

Exclusive

- Lock file on application start

Minimal

- Lock file on each log message

InterProcess

- Mutex

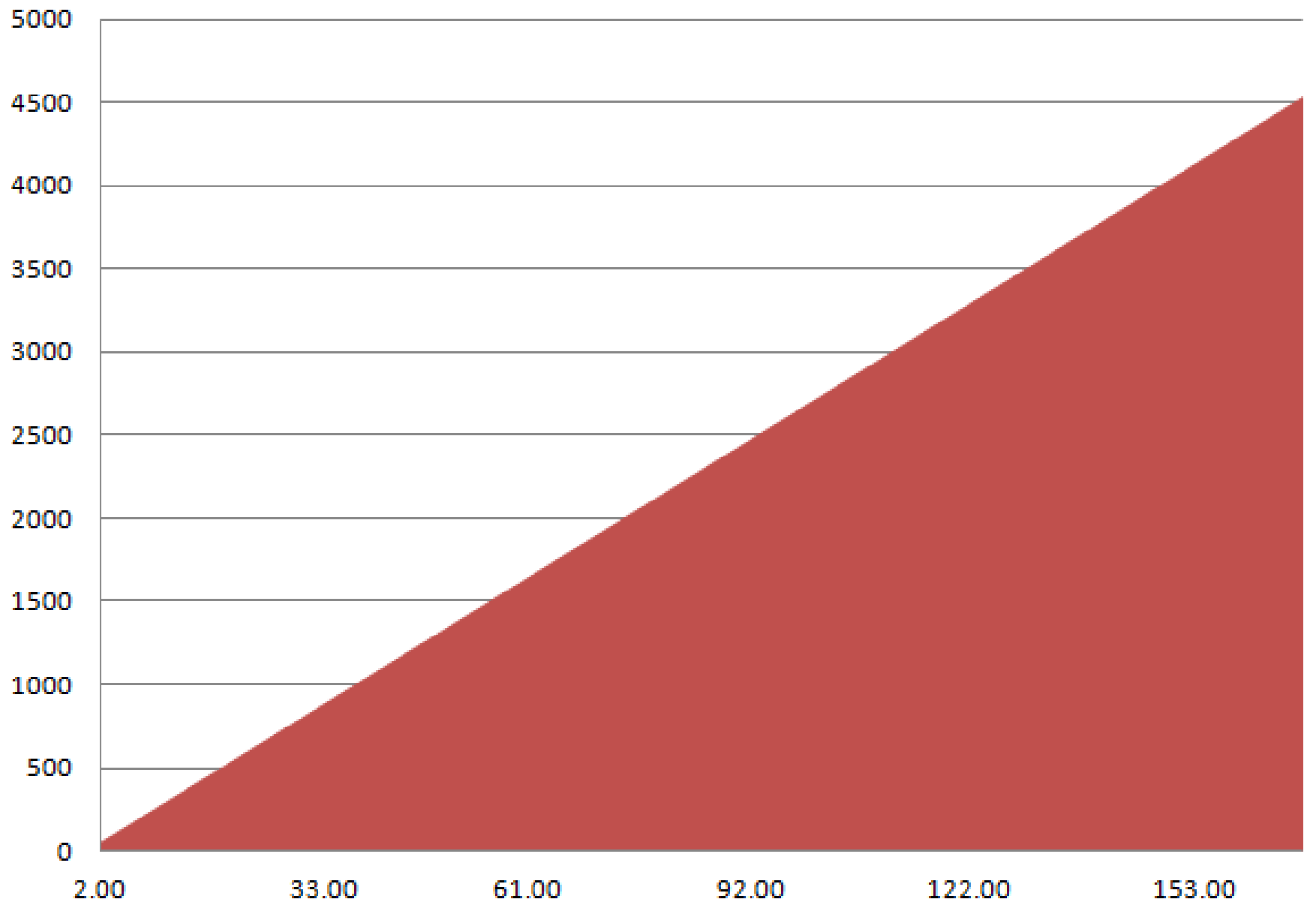


DON'T

EVER

About two hours later...

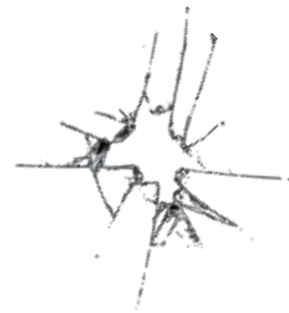
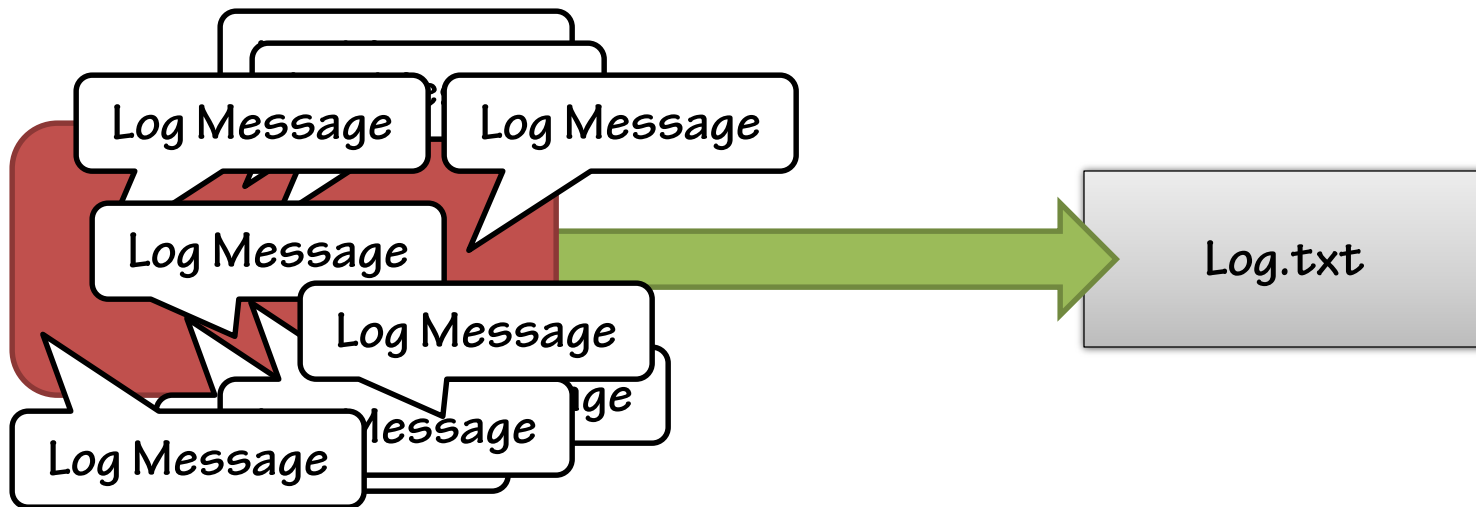
Log File Size (in MB) by Hours

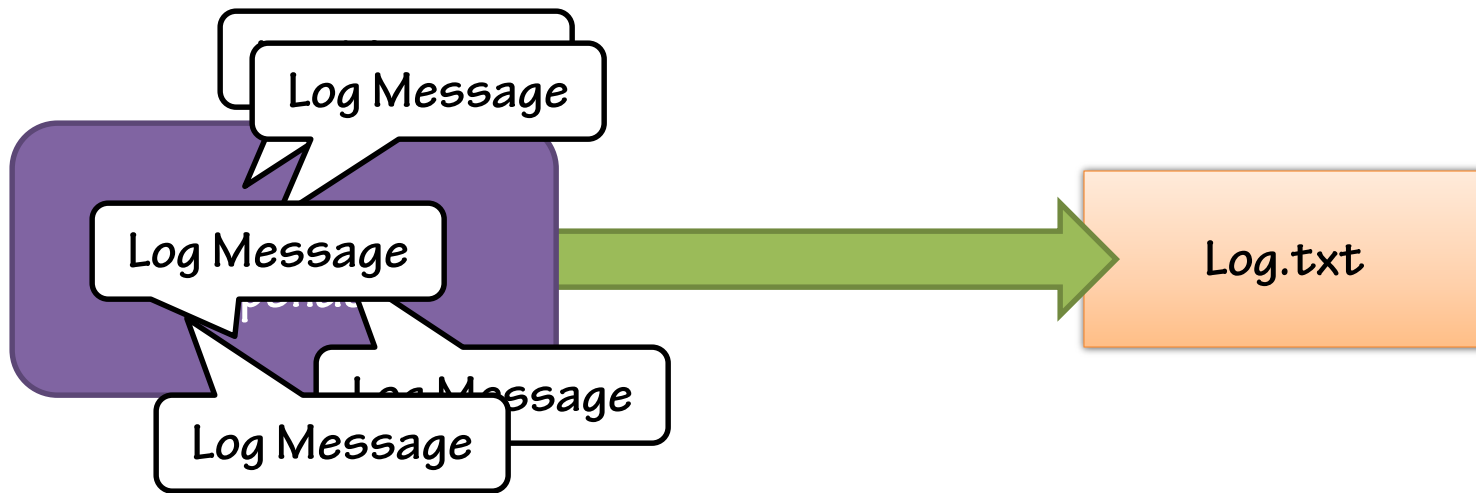


NO!

**DON'T USE
FILEAPPENDER**

Rolling File Appender

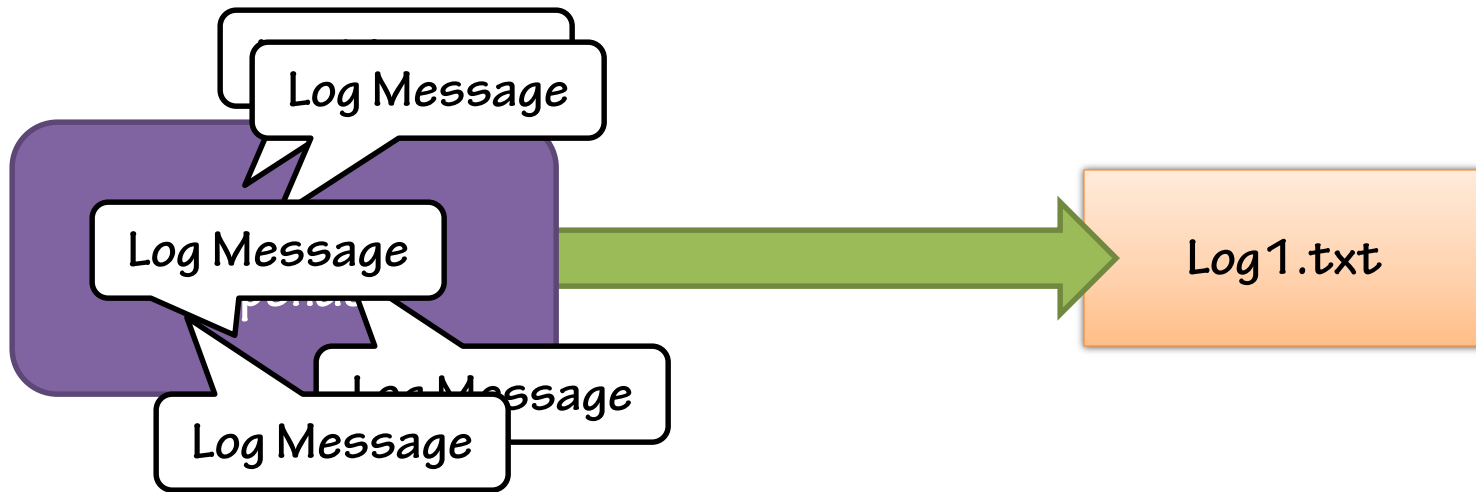




Rolling File
Appender

Log.txt

Log.txt



Rolling File
Appender

Log.txt

Log1.txt

Log2.txt

Log3.txt

Rolling File
Appender

Log.txt

Log1.txt

Log2.txt

Log4.txt

Rolling File Appender Properties

File

- Path to the log file

Encoding

- Name of the encoding to use for the log file

AppendToFile

- When true, log will be appended.
- When false, log is overwritten at application start.

LockingModel

- The locking model to use for the file
- Defaults to ExclusiveLock

Rolling File Appender Properties

RollingStyle

- Once, Date, Size, Composite

MaxFileSize

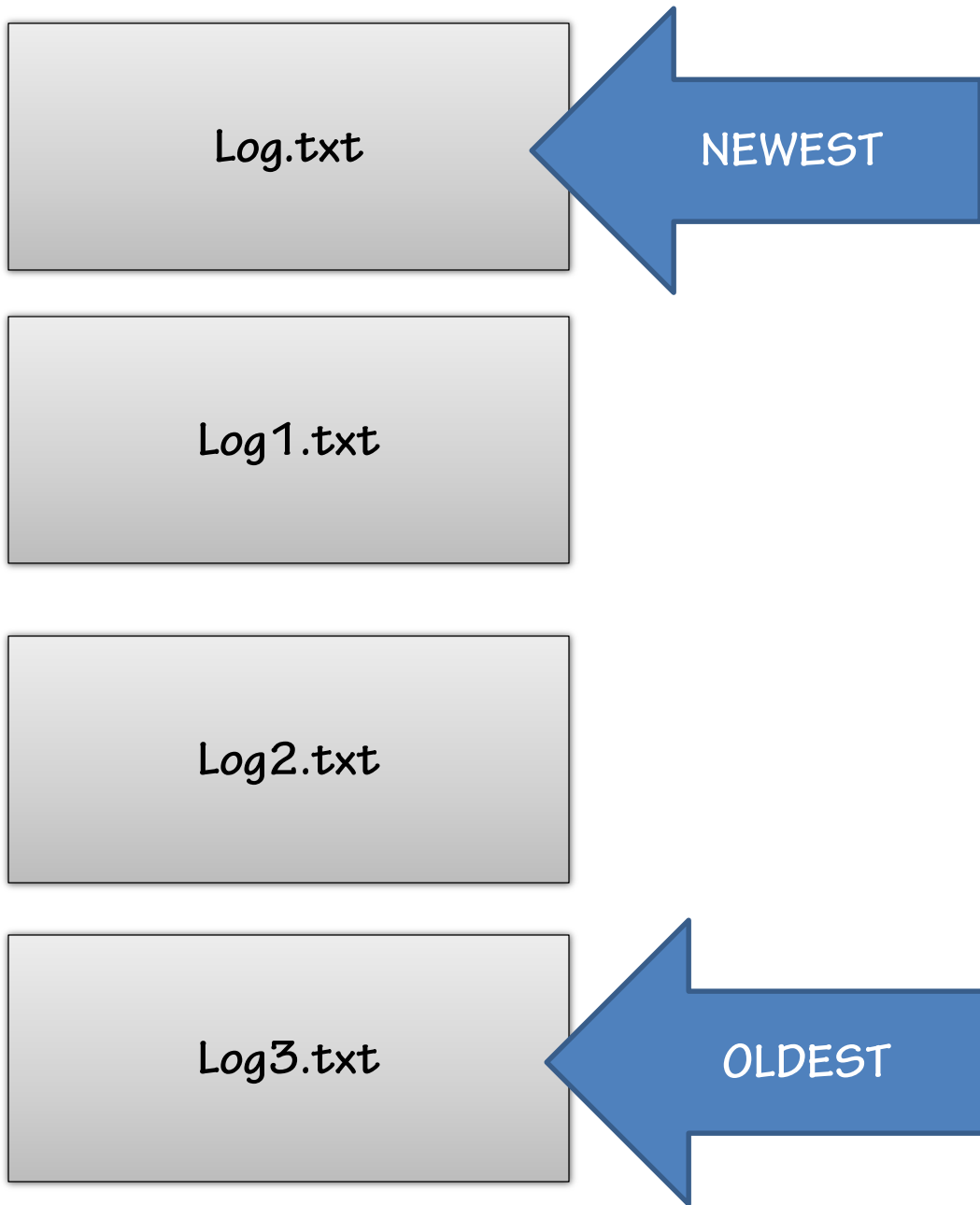
- The size at which to roll the log file.
- Default is 10MB

MaxSizeRollBackups

- Number of size-based rolling backups to maintain
- 0 = no backups, only a single log file
- -1 = no deletions

CountDirection

- ≥ 0 newer log files have higher index numbers
- < 0 new log files have lower index numbers (default)



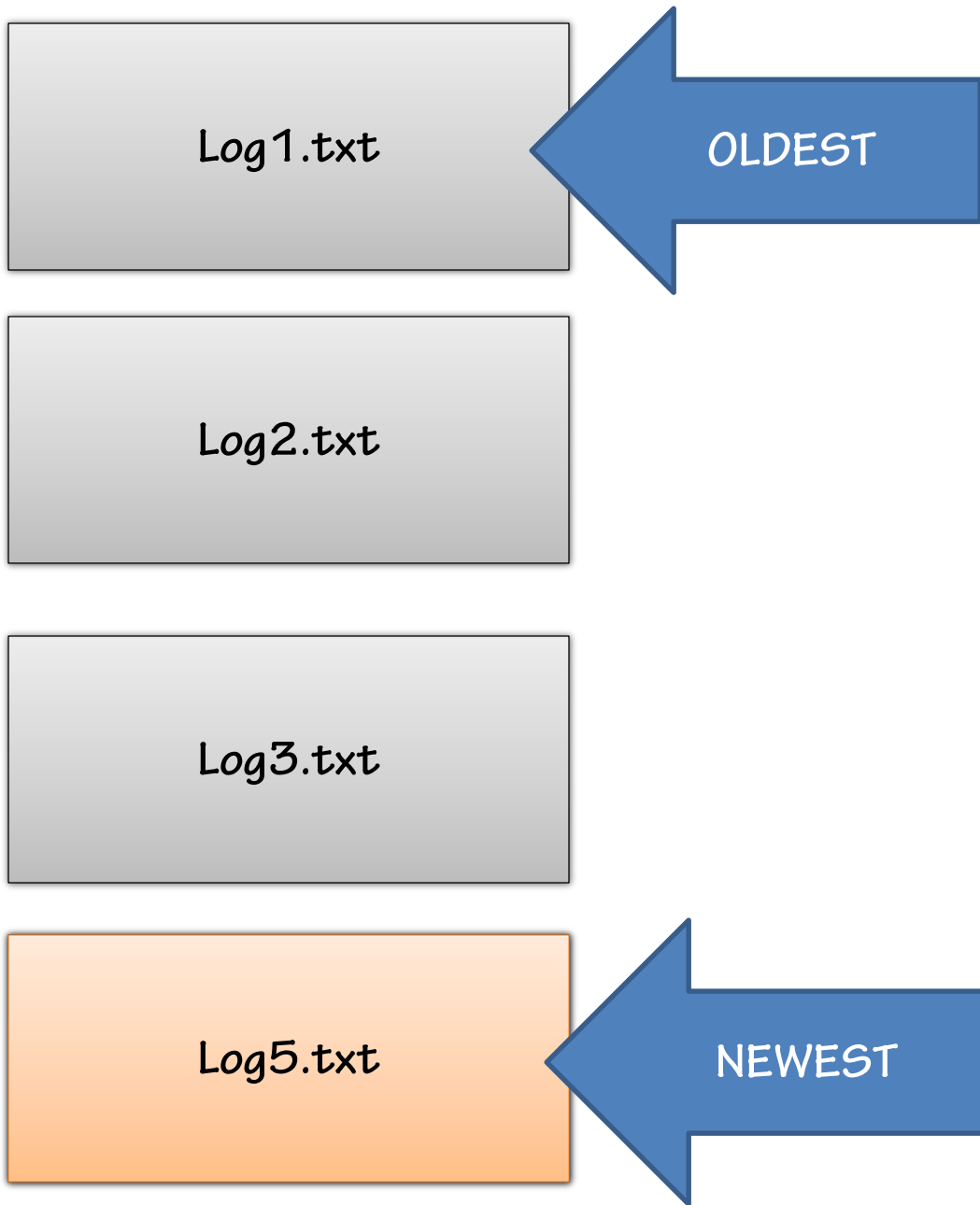
< 0

Log.txt

Log2.txt

Log3.txt

< 0



>= 0

Rolling File Appender Properties

DatePattern

- Pattern to use for log file names
- Custom .NET datetime formatting strings
- <http://msdn.microsoft.com/en-us/library/8kb3ddd4.aspx>

DateTimeStrategy

- LocalDateTime (default)
- UniversalDateTime

StaticLogFileName

- True: use a static log file name
- False: use the roll-off log file name

PreserveLogFileNameExtension

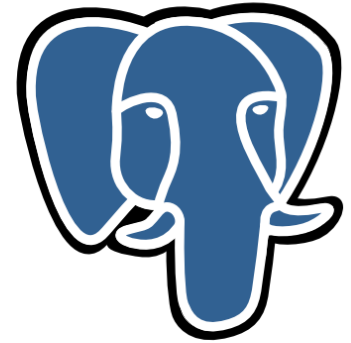
- True: preserve log file extension

Several minutes later...



**VERIFY YOUR
CONFIGURATION**

ADO.NET Appender



PostgreSQL

Microsoft®
SQL Server®



ORACLE®

ADO.NET Appender Properties

BUFFERING!

ConnectionString

- Literal connection string

ConnectionStringName

- Name of connection string in application configuration

AppSettingsKey

- Application setting containing connection string

ConnectionType

- Assembly-qualified typename of the connection to create

ReconnectOnError

- When true, reconnect on error

ADO.NET Appender Properties

CommandType

- Text
- StoredProcedure

CommandText

- SQL

UseTransactions

- When true, buffered events are inserted using a transaction

Parameters

- Name, DbType, Size, Layout

ADO.NET Appender Parameter Properties

ParameterName

- Name of parameter as used in SQL

DbType

- DbType of value

Size

- Maximum size in bytes of value

Precision

- Number of digits to use to represent value

Scale

- Number of decimal places used in value

Layout

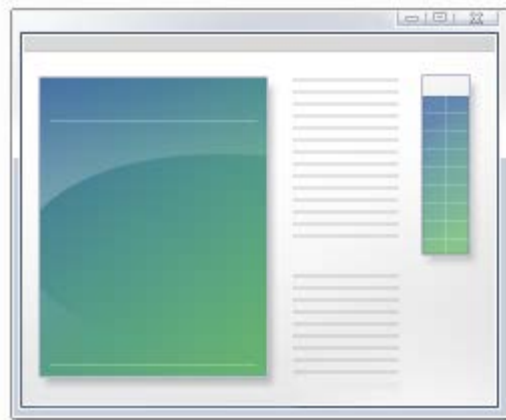
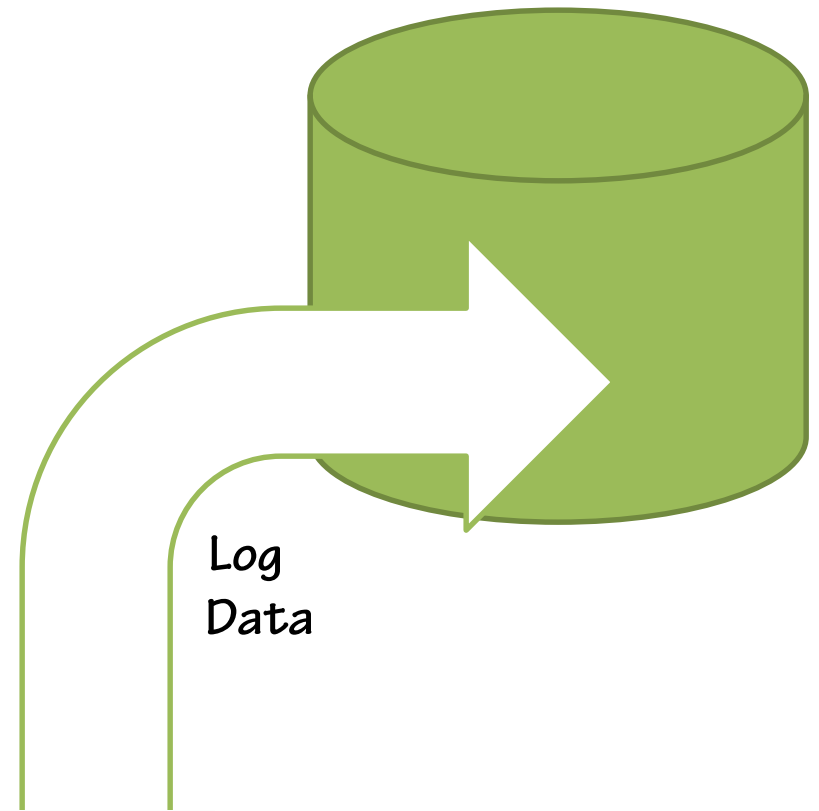
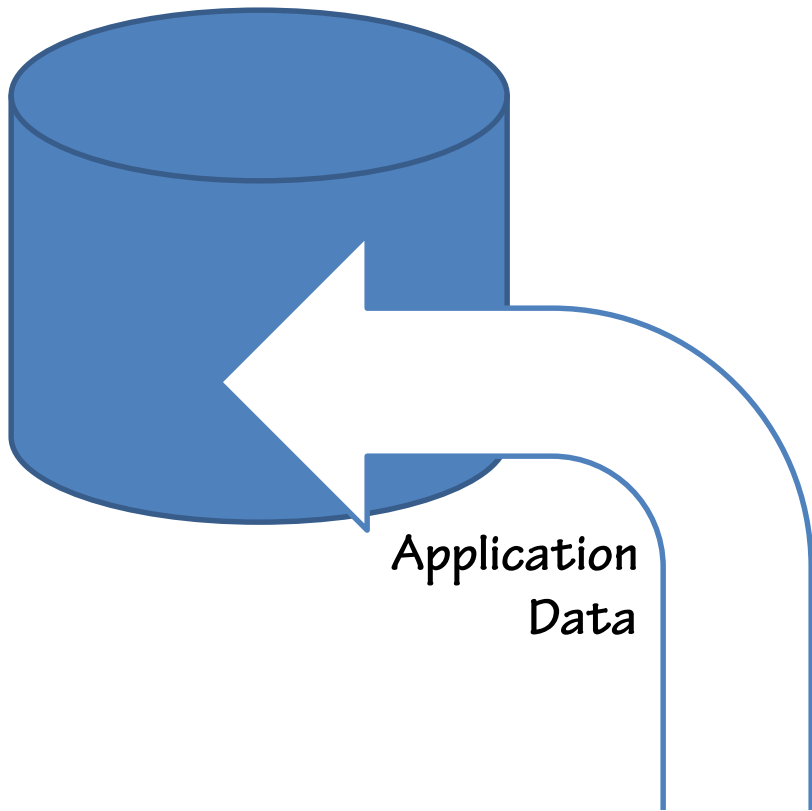
- Log4net layout used to get parameter value



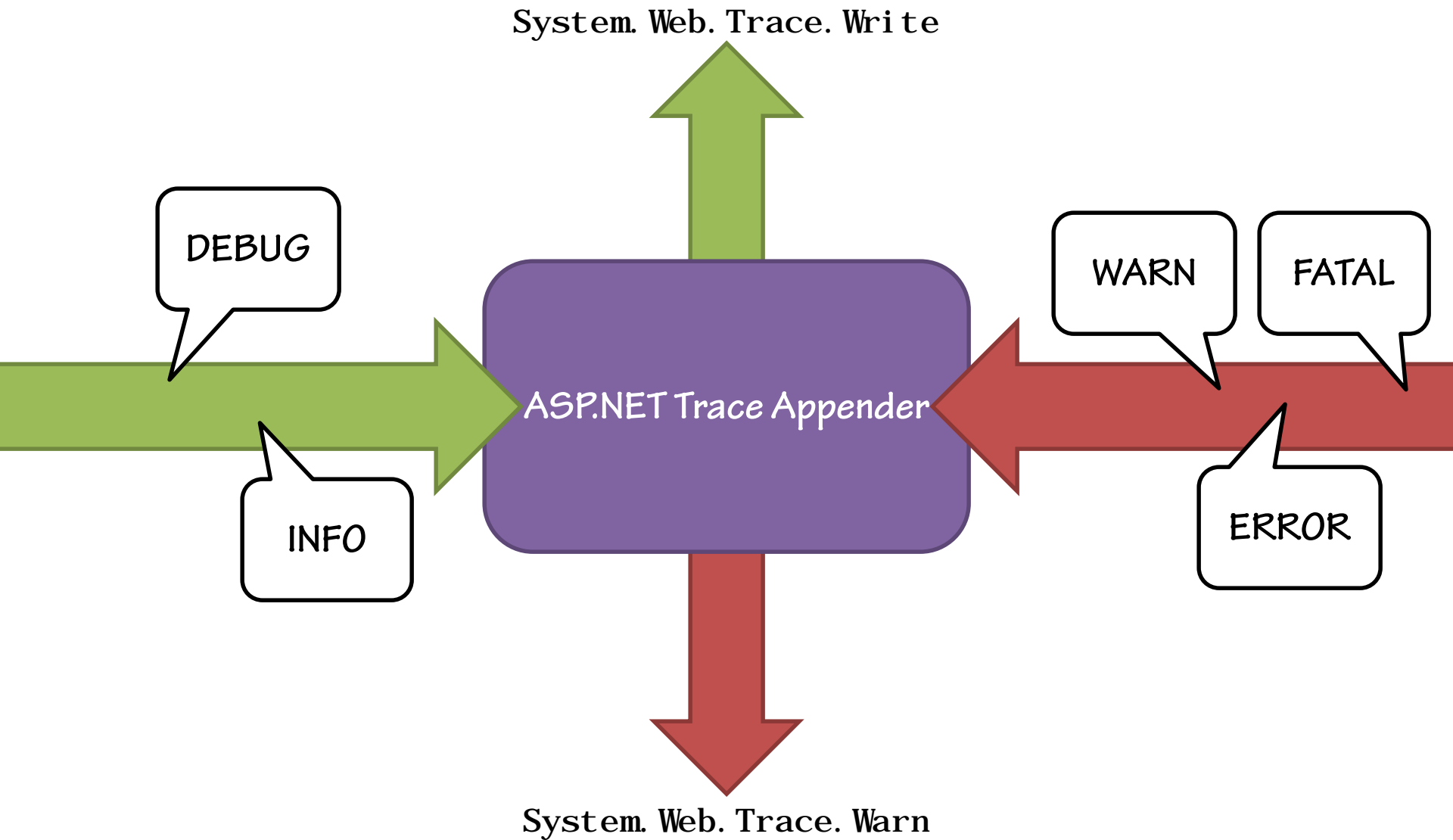
LOGS

ARE

DATA



ASP.NET Trace Appender



ASP.NET Trace Appender Properties

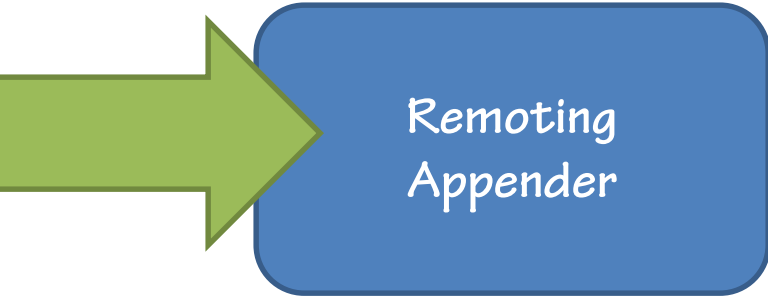
Category

- Category name to use in Trace.Write or Trace.Warn
- Defaults to logger name

Glimpse

<http://getglimpse.com/>

Remoting Appender





Remoting Appender Properties

Sink

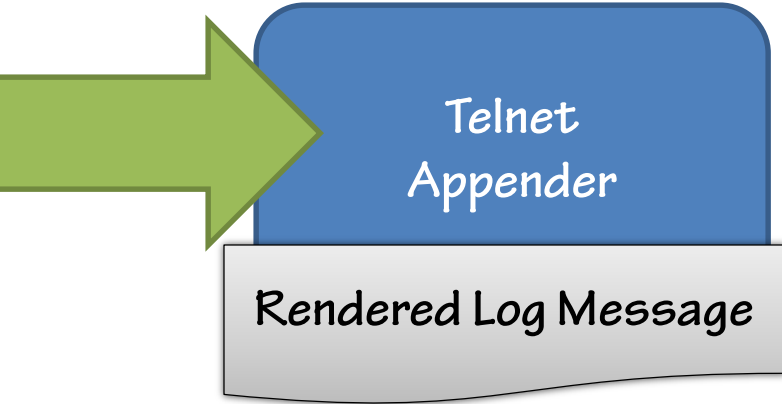
- Remoting sink URL
- RemotingAppender.IRemoteLoggingSink

BUFFERING!

OnlyFixPartialEventData

- Just set it to true

Telnet Appender



Telnet Client

```
graph TD; A[Telnet Appender] --> B[Rendered Log Message];
```

Telnet
Appender

Rendered Log Message

Telnet Client

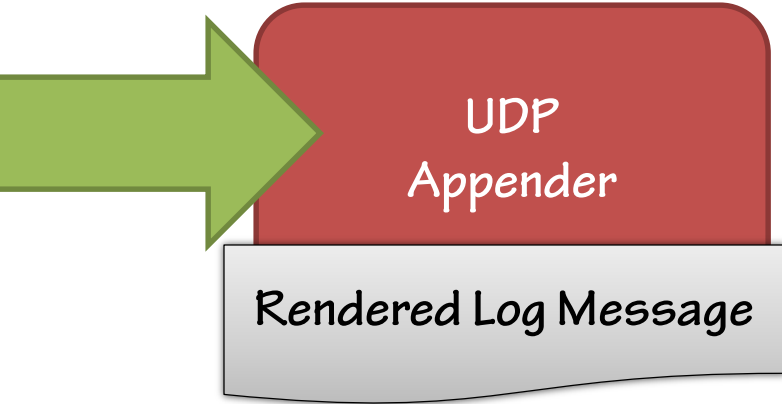
INFO – Program (null):
Something interesting has
happened!

Telnet Appender Properties

Port

- TCP/IP port on which to listen for connections
- Defaults to 23

UDP Appender

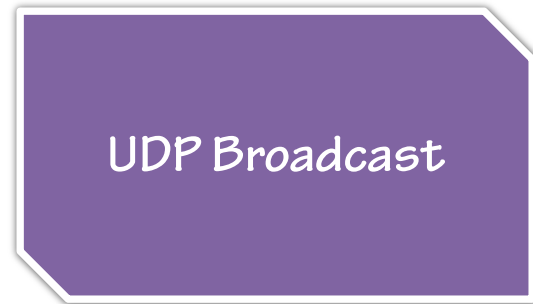
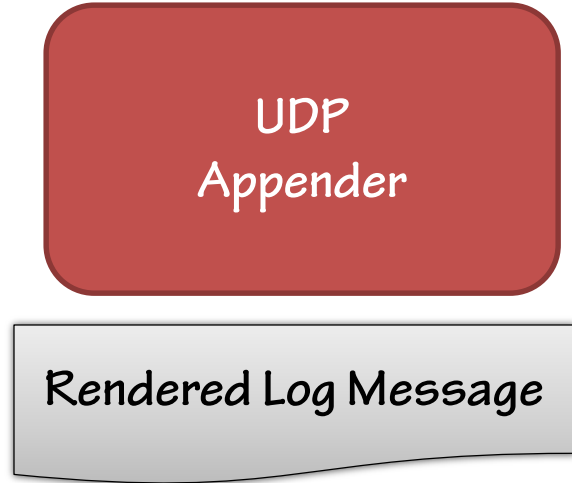


A diagram illustrating a UDP communication flow. On the left, a red rounded rectangle labeled 'UDP Appender' is positioned above a light gray rectangle labeled 'Rendered Log Message'. A dashed arrow points from the 'Rendered Log Message' box to the 'UDP Appender' box. A vertical dotted line separates this side from the right side. On the right, a blue rectangle with a folded top-right corner is labeled 'UDP Listener'. A dashed arrow points from the 'UDP Appender' box across the dotted line to the 'UDP Listener' box.

UDP
Appender

Rendered Log Message

UDP Listener





UDP Appender Properties

Encoding

- Encoding to use for sending formatted log messages

LocalPort

- TCP port number from which the appender will communicate

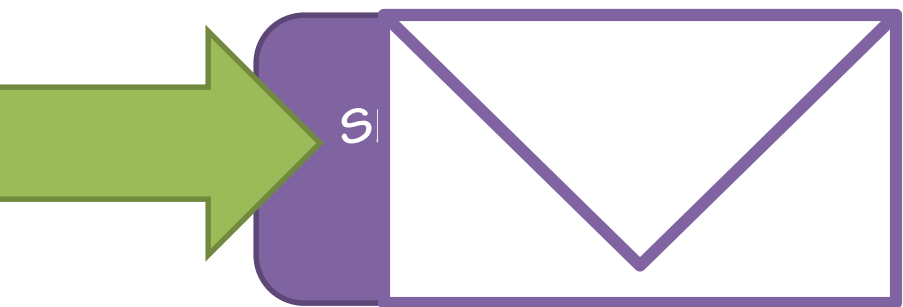
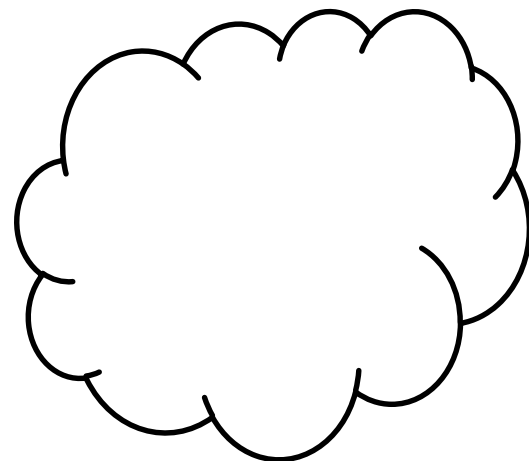
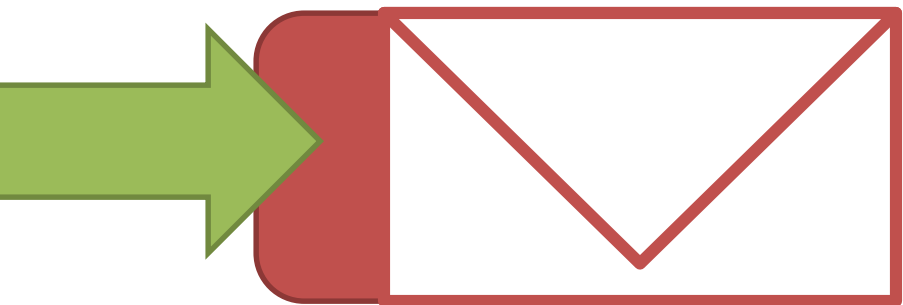
RemoteAddress

- Remote address to send formatted log messages

RemotePort

- TCP port number to which the appender will send messages

SMTP and PickupDir Appenders



SMTP Appender Properties



Smtphost

- SMTP relay server

Port

- SMTP port; defaults to 25

Authentication

- Basic or NTLM

Username

- Username for authentication

Password

- Password for authentication

EnableSSL

- True to use SSL/TLS

SMTP Appender Properties

From

- Email address of sender

To

- Email address of recipient

CC / BCC

- List of carbon copy recipients

Priority

- Normal, Low, or High

ReplyTo

- The reply-to address

Subject

- Email subject string

SMTP PickupDir Appender Properties

PickupDir

- Pickup directory

BUFFERING!

From

- Email address of sender

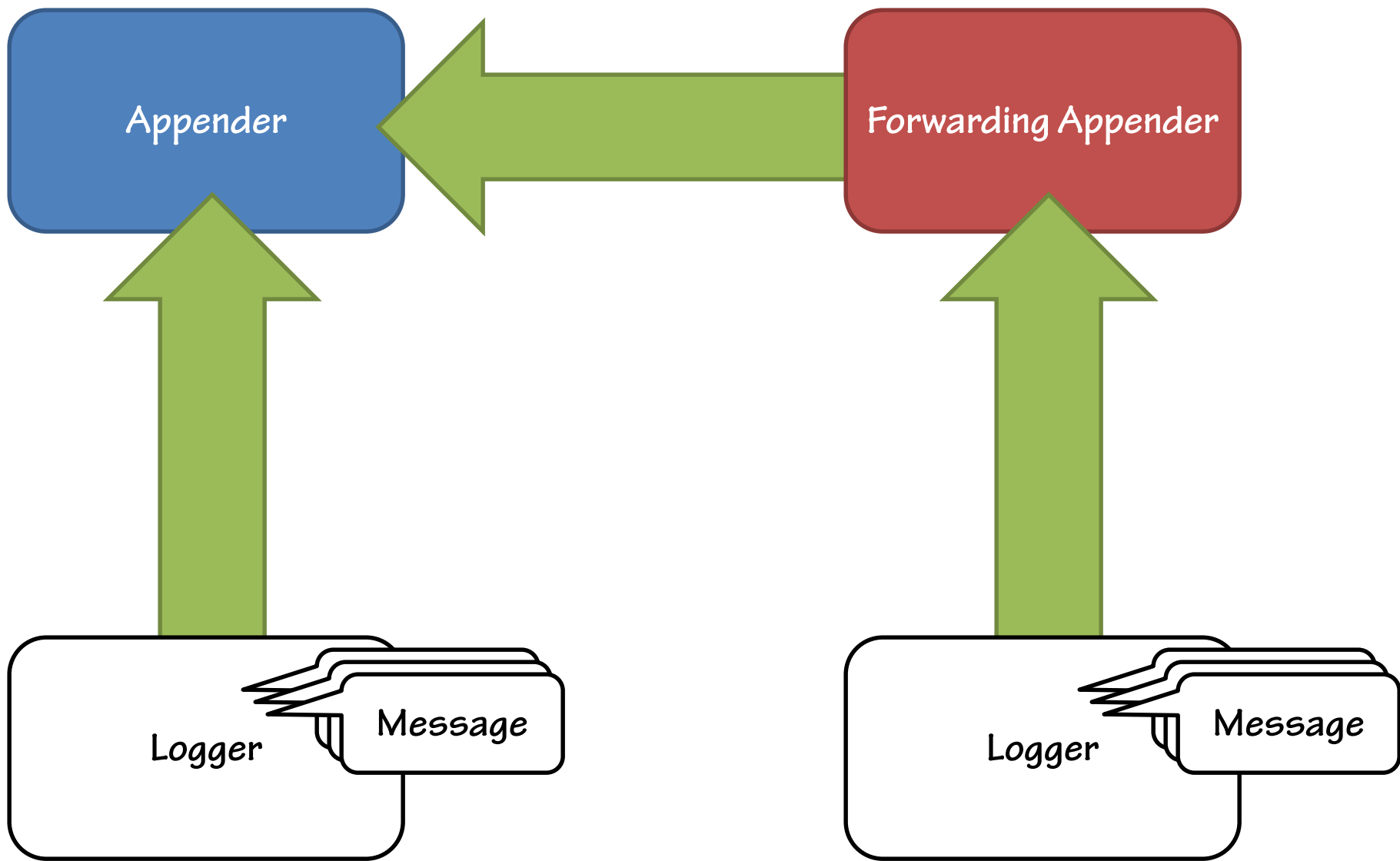
To

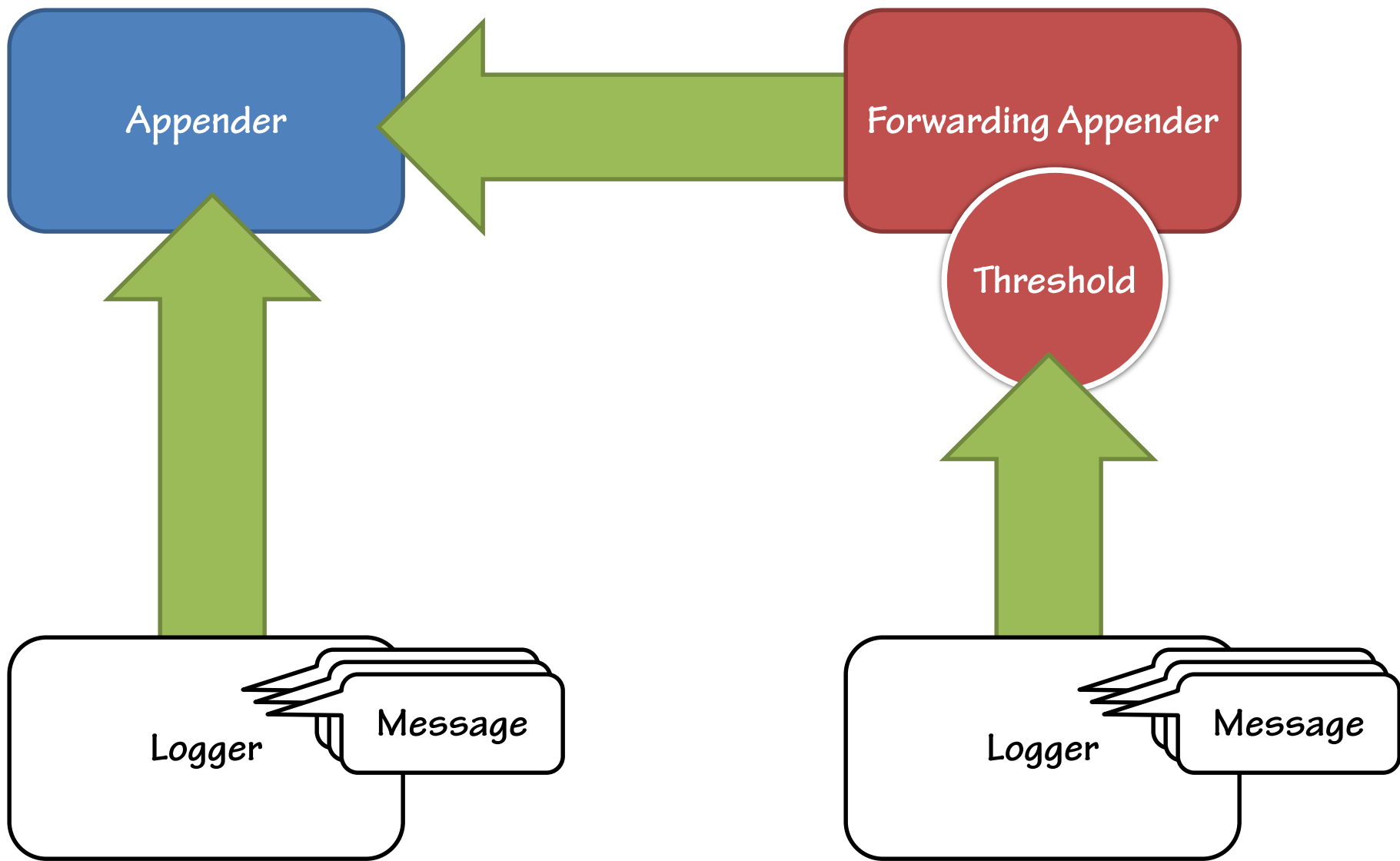
- Email address of recipient

Subject

- Email subject string

Forwarding and Buffering Appenders

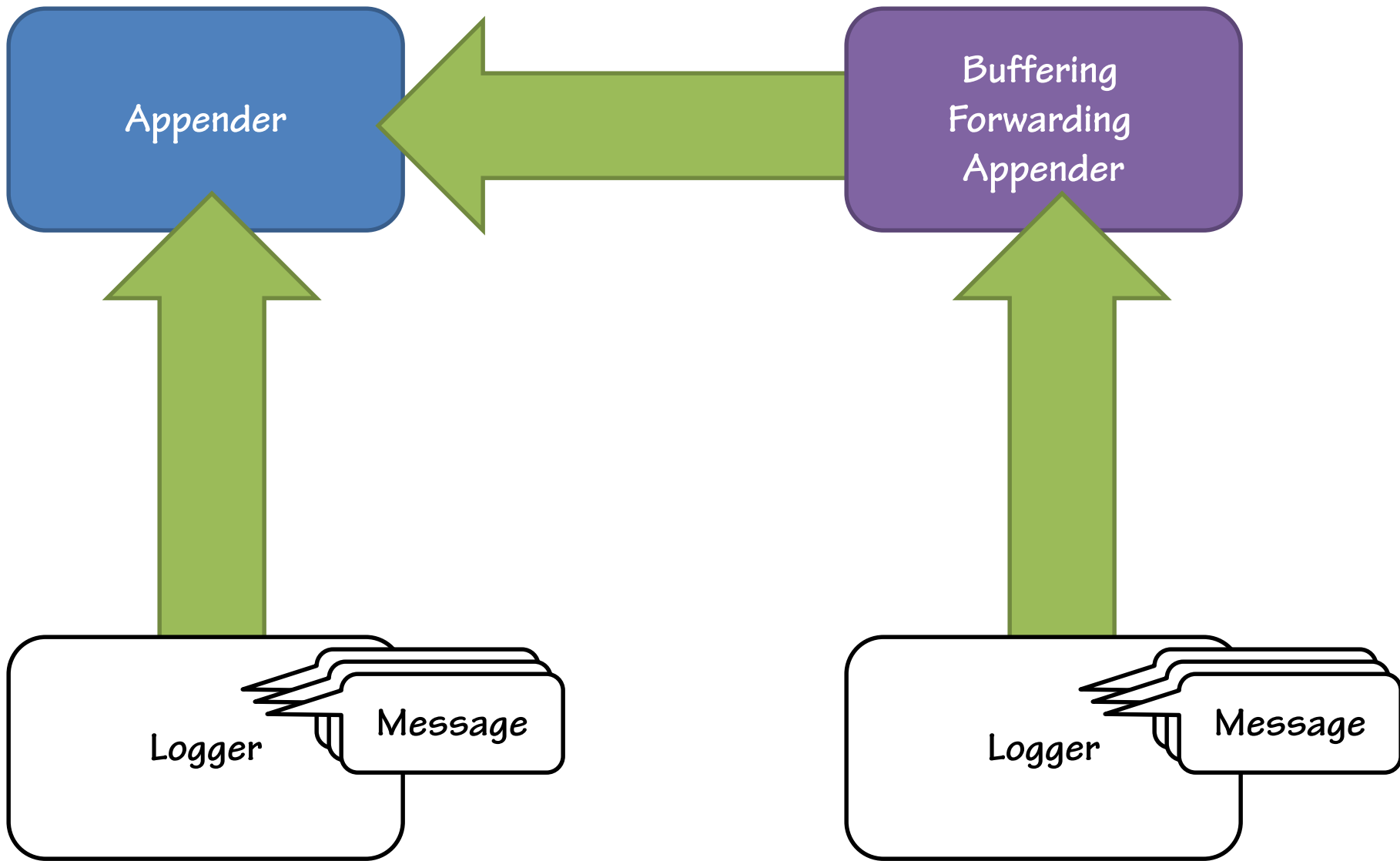




Forwarding Appender Properties

**Appender-
Ref**

- **One or more appender references**



Buffering Forwarding Appender Properties

BUFFERING!

**Appender-
Ref**

- One or more appender references

Appenders

- **Common Appender Configuration Properties**
 - Threshold
 - Layout
 - Filter
 - BufferSize
 - Fix

Appenders

- **Common Appender Configuration Properties**
 - Threshold
 - Layout
 - Filter
 - BufferSize
 - Fix
- **Unique Appender Configuration Properties**
 - <http://bit.ly/Zn3s3>