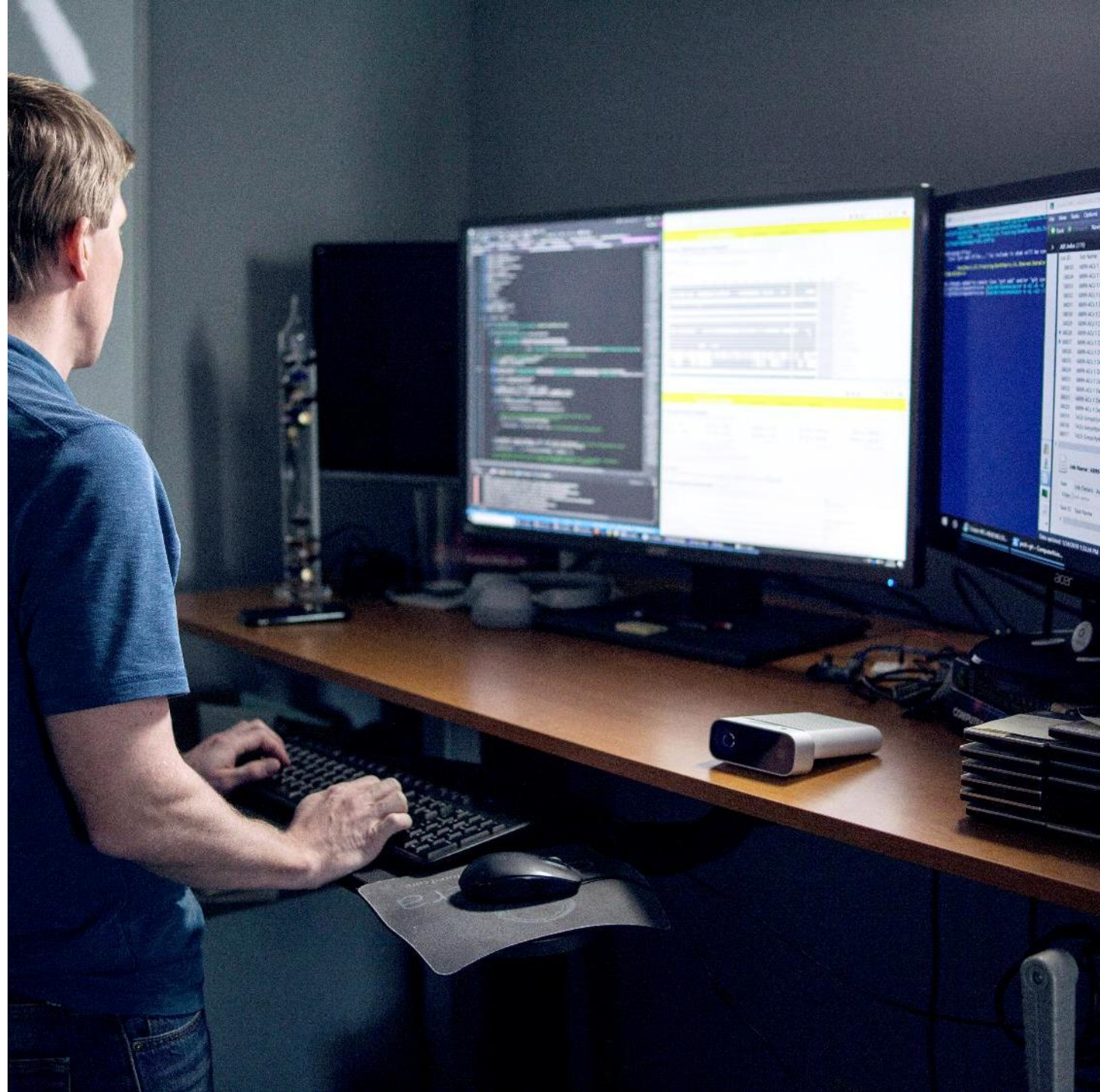




# WorkshopPLUS: SharePoint Server Administration

Troubleshooting: Logging



# Agenda

1

Logging

# Various SharePoint logs



**Setup logs**



**Configuration logs**



**Upgrade logs**

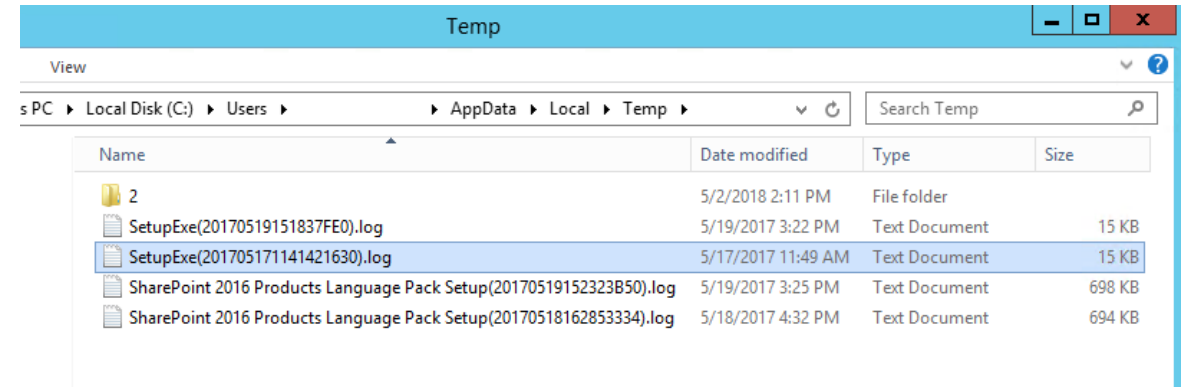


**ULS (Trace) logs**

# SharePoint Setup logs

## Setup logs

- Helps in troubleshooting setup failures
- Contains the list and status of the MSI packages installed for Microsoft SharePoint Server
- Create for installation of SharePoint and Language packs



### Log location:

%temp%

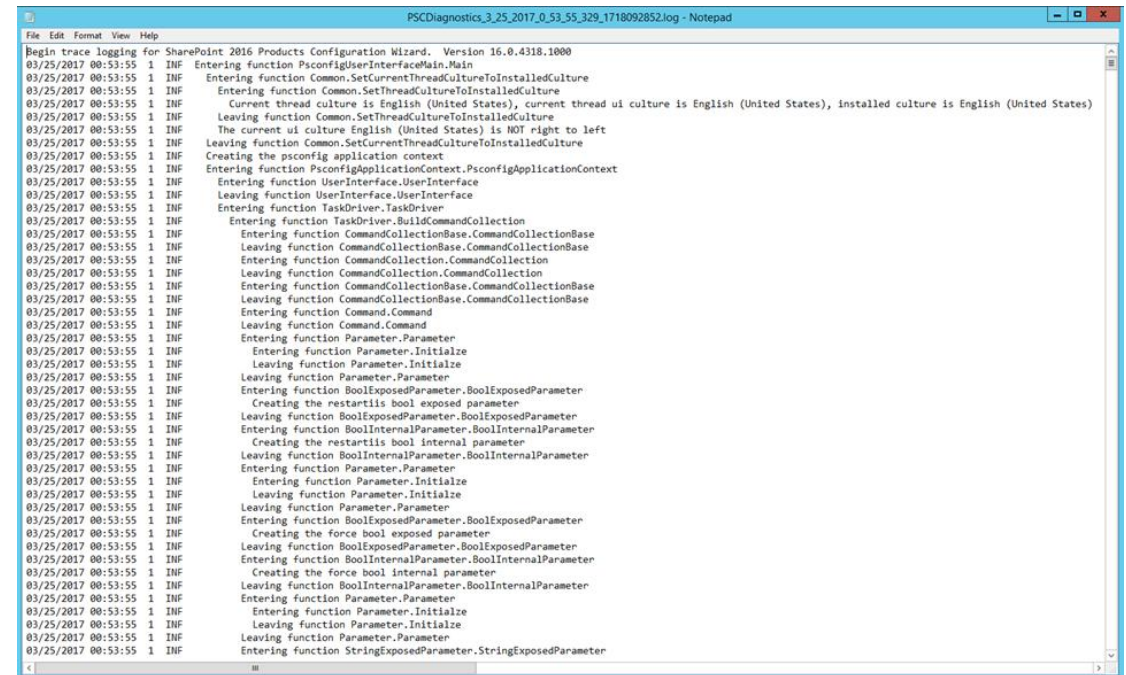
### Name:

SetupExe(xxxxxxxxxx).log

# SharePoint Configuration logs

## Configuration logs

- Contain errors that occur during the post-setup configuration process
- Indicate whether each entry is of information or error type



```
File Edit Format View Help
PSCDiagnostics_3_25_2017_0_53_55_329_1718092852.log - Notepad
Begin trace logging for SharePoint 2016 Products Configuration Wizard. Version 16.0.4318.1000
03/25/2017 00:53:55 1 INF Entering function PsconfigUserInterface.Main
03/25/2017 00:53:55 1 INF Entering function Common.SetCurrentThreadCultureToInstalledCulture
03/25/2017 00:53:55 1 INF Entering function Common.SetThreadCultureToInstalledCulture
03/25/2017 00:53:55 1 INF Current thread culture is English (United States), current thread ui culture is English (United States), installed culture is English (United States)
03/25/2017 00:53:55 1 INF Leaving function Common.SetThreadCultureToInstalledCulture
03/25/2017 00:53:55 1 INF The current ui culture English (United States) is NOT right to left
03/25/2017 00:53:55 1 INF Leaving function Common.SetCurrentThreadCultureToInstalledCulture
03/25/2017 00:53:55 1 INF Creating the psconfig application context
03/25/2017 00:53:55 1 INF Entering function PsconfigApplicationContext.PsconfigApplicationContext
03/25/2017 00:53:55 1 INF Entering function UserInterface.UserInterface
03/25/2017 00:53:55 1 INF Leaving function UserInterface.UserInterface
03/25/2017 00:53:55 1 INF Entering function TaskDriver.TaskDriver
03/25/2017 00:53:55 1 INF Entering function TaskDriver.BuildCommandCollection
03/25/2017 00:53:55 1 INF Entering function CommandCollectionBase.CommandCollectionBase
03/25/2017 00:53:55 1 INF Leaving function CommandCollectionBase.CommandCollectionBase
03/25/2017 00:53:55 1 INF Entering function CommandCollection.CommandCollection
03/25/2017 00:53:55 1 INF Leaving function CommandCollection.CommandCollection
03/25/2017 00:53:55 1 INF Entering function CommandCollectionBase.CommandCollectionBase
03/25/2017 00:53:55 1 INF Leaving function CommandCollectionBase.CommandCollectionBase
03/25/2017 00:53:55 1 INF Entering function Command.Command
03/25/2017 00:53:55 1 INF Leaving function Command.Command
03/25/2017 00:53:55 1 INF Entering function Parameter.Parameter
03/25/2017 00:53:55 1 INF Entering function Parameter.Initialize
03/25/2017 00:53:55 1 INF Leaving function Parameter.Initialize
03/25/2017 00:53:55 1 INF Leaving function Parameter.Parameter
03/25/2017 00:53:55 1 INF Entering function BoolExposedParameter.BoolExposedParameter
03/25/2017 00:53:55 1 INF Creating the restartIs bool exposed parameter
03/25/2017 00:53:55 1 INF Leaving function BoolExposedParameter.BoolExposedParameter
03/25/2017 00:53:55 1 INF Entering function BoolInternalParameter.BoolInternalParameter
03/25/2017 00:53:55 1 INF Creating the restartIs bool internal parameter
03/25/2017 00:53:55 1 INF Leaving function BoolInternalParameter.BoolInternalParameter
03/25/2017 00:53:55 1 INF Entering function Parameter.Parameter
03/25/2017 00:53:55 1 INF Entering function Parameter.Initialize
03/25/2017 00:53:55 1 INF Leaving function Parameter.Initialize
03/25/2017 00:53:55 1 INF Leaving function Parameter.Parameter
03/25/2017 00:53:55 1 INF Entering function BoolExposedParameter.BoolExposedParameter
03/25/2017 00:53:55 1 INF Creating the force bool exposed parameter
03/25/2017 00:53:55 1 INF Leaving function BoolExposedParameter.BoolExposedParameter
03/25/2017 00:53:55 1 INF Entering function BoolInternalParameter.BoolInternalParameter
03/25/2017 00:53:55 1 INF Creating the force bool internal parameter
03/25/2017 00:53:55 1 INF Leaving function BoolInternalParameter.BoolInternalParameter
03/25/2017 00:53:55 1 INF Entering function Parameter.Parameter
03/25/2017 00:53:55 1 INF Entering function Parameter.Initialize
03/25/2017 00:53:55 1 INF Leaving function Parameter.Initialize
03/25/2017 00:53:55 1 INF Leaving function Parameter.Parameter
03/25/2017 00:53:55 1 INF Entering function StringExposedParameter.StringExposedParameter
```

### Log location:

%COMMONPROGRAMFILES%\Microsoft Shared\Web server extensions\16\LOGS\

### Name:

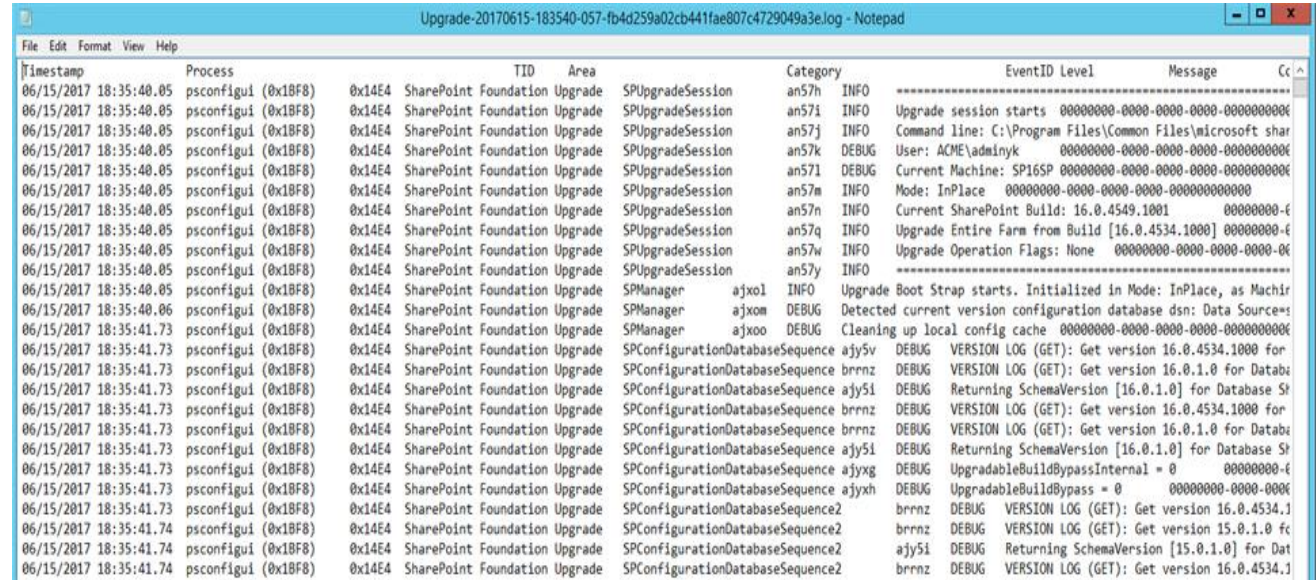
PSCDiagnostics\_MM\_DD\_YYYY\_HH\_MM\_SS\_MS\_XXX\_XXXXXXXXX.log



# SharePoint Upgrade logs

## Upgrade logs

- Whenever you perform an upgrade of a content database, an upgrade log is generated.
- To verify that upgrade has succeeded, you can review the upgrade log.
- All errors are logged in a separate log file.



Timestamp	Process	TID	Area	Category	EventID	Level	Message
06/15/2017 18:35:40.05	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPUpgradeSession	an57h	INFO	*****
06/15/2017 18:35:40.05	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPUpgradeSession	an57i	INFO	Upgrade session starts 00000000-0000-0000-0000-000000000000
06/15/2017 18:35:40.05	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPUpgradeSession	an57j	INFO	Command line: C:\Program Files\Common Files\microsoft shar
06/15/2017 18:35:40.05	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPUpgradeSession	an57k	DEBUG	User: ACME\adminyk 00000000-0000-0000-0000-000000000000
06/15/2017 18:35:40.05	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPUpgradeSession	an57l	DEBUG	Current Machine: SP16SP 00000000-0000-0000-0000-000000000000
06/15/2017 18:35:40.05	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPUpgradeSession	an57m	INFO	Mode: InPlace 00000000-0000-0000-0000-000000000000
06/15/2017 18:35:40.05	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPUpgradeSession	an57n	INFO	Current SharePoint Build: 16.0.4549.1001 00000000-0000-0000-0000-000000000000
06/15/2017 18:35:40.05	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPUpgradeSession	an57q	INFO	Upgrade Entire Farm from Build [16.0.4534.1000] 00000000-0000-0000-0000-000000000000
06/15/2017 18:35:40.05	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPUpgradeSession	an57w	INFO	Upgrade Operation Flags: None 00000000-0000-0000-0000-000000000000
06/15/2017 18:35:40.05	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPUpgradeSession	an57y	INFO	*****
06/15/2017 18:35:40.05	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPManager	ajxol	INFO	Upgrade Boot Strap starts. Initialized in Mode: InPlace, as Machir
06/15/2017 18:35:40.06	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPManager	ajxom	DEBUG	Detected current version configuration database dsn: Data Source=;
06/15/2017 18:35:41.73	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPManager	ajxoo	DEBUG	Cleaning up local config cache 00000000-0000-0000-0000-000000000000
06/15/2017 18:35:41.73	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPConfigurationDatabaseSequence	ajy5v	DEBUG	VERSION LOG (GET): Get version 16.0.4534.1000 for
06/15/2017 18:35:41.73	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPConfigurationDatabaseSequence	brnzn	DEBUG	VERSION LOG (GET): Get version 16.0.1.0 for Databa
06/15/2017 18:35:41.73	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPConfigurationDatabaseSequence	ajy5i	DEBUG	Returning SchemaVersion [16.0.1.0] for Database Sh
06/15/2017 18:35:41.73	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPConfigurationDatabaseSequence	brnzn	DEBUG	VERSION LOG (GET): Get version 16.0.4534.1000 for
06/15/2017 18:35:41.73	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPConfigurationDatabaseSequence	brnzn	DEBUG	VERSION LOG (GET): Get version 16.0.1.0 for Databa
06/15/2017 18:35:41.73	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPConfigurationDatabaseSequence	ajy5i	DEBUG	Returning SchemaVersion [16.0.1.0] for Database Sh
06/15/2017 18:35:41.73	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPConfigurationDatabaseSequence	ajyxx	DEBUG	UpgradableBuildBypassInternal = 0 00000000-0000-0000-0000-000000000000
06/15/2017 18:35:41.73	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPConfigurationDatabaseSequence	ajyxx	DEBUG	UpgradableBuildBypass = 0 00000000-0000-0000-0000-000000000000
06/15/2017 18:35:41.73	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPConfigurationDatabaseSequence2	brnzn	DEBUG	VERSION LOG (GET): Get version 16.0.4534.1
06/15/2017 18:35:41.74	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPConfigurationDatabaseSequence2	brnzn	DEBUG	VERSION LOG (GET): Get version 15.0.1.0 for
06/15/2017 18:35:41.74	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPConfigurationDatabaseSequence2	ajy5i	DEBUG	Returning SchemaVersion [15.0.1.0] for Dat
06/15/2017 18:35:41.74	psconfigui (0x1BF8)	0x14E4	SharePoint Foundation Upgrade	SPConfigurationDatabaseSequence2	brnzn	DEBUG	VERSION LOG (GET): Get version 16.0.4534.1

Log location:

%COMMONPROGRAMFILES%\Microsoft Shared\Web  
server extensions\16\LOGS\

Name:

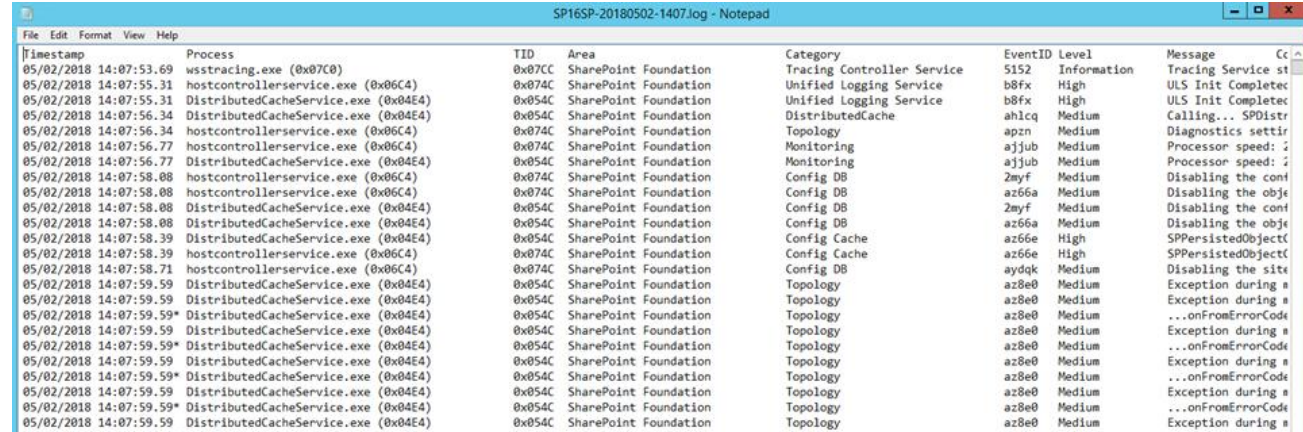
Upgrade Log : Upgrade-YYYYMMDD-HHMMSS-SSS-  
<GUID>.log

Upgrade Error Log: Upgrade- YYYYMMDD-HHMMSS-SSS-  
<GUID>-error.log

# SharePoint ULS (Trace) logs

## ULS logs

- ULS (Unified Logging Service) logs are a robust logging system used by SharePoint.
- Helps in troubleshooting SharePoint client-side and server-side issues.
- The default log location can be changed to a custom location.



Timestamp	Process	TID	Area	Category	EventID	Level	Message
05/02/2018 14:07:53.69	wsstracing.exe (0x07C0)	0x07CC	SharePoint Foundation	Tracing Controller Service	5152	Information	Tracing Service st
05/02/2018 14:07:55.31	hostcontrollerservice.exe (0x06C4)	0x074C	SharePoint Foundation	Unified Logging Service	b8fx	High	ULS Init Completec
05/02/2018 14:07:55.31	DistributedCacheService.exe (0x04E4)	0x054C	SharePoint Foundation	Unified Logging Service	b8fx	High	ULS Init Completec
05/02/2018 14:07:56.34	DistributedCacheService.exe (0x04E4)	0x054C	SharePoint Foundation	DistributedCache	ahlcq	Medium	Calling... SPDistr
05/02/2018 14:07:56.34	hostcontrollerservice.exe (0x06C4)	0x074C	SharePoint Foundation	Topology	apzn	Medium	Diagnostics settir
05/02/2018 14:07:56.77	hostcontrollerservice.exe (0x06C4)	0x074C	SharePoint Foundation	Monitoring	ajjub	Medium	Processor speed: 2
05/02/2018 14:07:56.77	DistributedCacheService.exe (0x04E4)	0x054C	SharePoint Foundation	Monitoring	ajjub	Medium	Processor speed: 2
05/02/2018 14:07:58.08	hostcontrollerservice.exe (0x06C4)	0x074C	SharePoint Foundation	Config DB	2myf	Medium	Disabling the conf
05/02/2018 14:07:58.08	hostcontrollerservice.exe (0x06C4)	0x074C	SharePoint Foundation	Config DB	2myf	Medium	Disabling the obje
05/02/2018 14:07:58.08	DistributedCacheService.exe (0x04E4)	0x054C	SharePoint Foundation	Config DB	2myf	Medium	Disabling the conf
05/02/2018 14:07:58.08	DistributedCacheService.exe (0x04E4)	0x054C	SharePoint Foundation	Config DB	2myf	Medium	Disabling the conf
05/02/2018 14:07:58.39	DistributedCacheService.exe (0x04E4)	0x054C	SharePoint Foundation	Config DB	az66a	Medium	Disabling the obje
05/02/2018 14:07:58.39	hostcontrollerservice.exe (0x06C4)	0x054C	SharePoint Foundation	Config Cache	az66e	High	SPPersistedObjectC
05/02/2018 14:07:58.71	hostcontrollerservice.exe (0x06C4)	0x074C	SharePoint Foundation	Config Cache	az66e	High	SPPersistedObjectC
05/02/2018 14:07:59.59	DistributedCacheService.exe (0x04E4)	0x054C	SharePoint Foundation	Config DB	aydqk	Medium	Disabling the site
05/02/2018 14:07:59.59	DistributedCacheService.exe (0x04E4)	0x054C	SharePoint Foundation	Topology	az8e0	Medium	Exception during a
05/02/2018 14:07:59.59	DistributedCacheService.exe (0x04E4)	0x054C	SharePoint Foundation	Topology	az8e0	Medium	Exception during a
05/02/2018 14:07:59.59*	DistributedCacheService.exe (0x04E4)	0x054C	SharePoint Foundation	Topology	az8e0	Medium	...onFromErrorCode
05/02/2018 14:07:59.59	DistributedCacheService.exe (0x04E4)	0x054C	SharePoint Foundation	Topology	az8e0	Medium	Exception during a
05/02/2018 14:07:59.59*	DistributedCacheService.exe (0x04E4)	0x054C	SharePoint Foundation	Topology	az8e0	Medium	...onFromErrorCode
05/02/2018 14:07:59.59	DistributedCacheService.exe (0x04E4)	0x054C	SharePoint Foundation	Topology	az8e0	Medium	Exception during a
05/02/2018 14:07:59.59*	DistributedCacheService.exe (0x04E4)	0x054C	SharePoint Foundation	Topology	az8e0	Medium	...onFromErrorCode
05/02/2018 14:07:59.59	DistributedCacheService.exe (0x04E4)	0x054C	SharePoint Foundation	Topology	az8e0	Medium	Exception during a
05/02/2018 14:07:59.59*	DistributedCacheService.exe (0x04E4)	0x054C	SharePoint Foundation	Topology	az8e0	Medium	...onFromErrorCode
05/02/2018 14:07:59.59	DistributedCacheService.exe (0x04E4)	0x054C	SharePoint Foundation	Topology	az8e0	Medium	Exception during a
05/02/2018 14:07:59.59*	DistributedCacheService.exe (0x04E4)	0x054C	SharePoint Foundation	Topology	az8e0	Medium	...onFromErrorCode

Log location:

%COMMONPROGRAMFILES%\Microsoft Shared\Web  
server extensions\16\LOGS\

Name:

{ServerName}YYYYMMDD-HHMM.log

# Configure logging system - Logging categories

## ULS logs

- Configure logging level
- Configure Event and Trace log level
- Via Central Administration: Monitoring > Configure Diagnostic Logging
- Via PowerShell: Get-SPLogLevel, Set-SPLogLevel and Clear-SPLogLevel

**Event Throttling**  
Use these settings to control the severity of events captured in the Windows event log and the trace logs. As the severity decreases, the number of events logged will increase.

You can change the settings for any single category, or for all categories. Updating all categories will lose the changes to individual categories.

Select a category

Category	Event Level	Trace Level
<input checked="" type="checkbox"/> All Categories		
<input type="checkbox"/> Access Services		
<input type="checkbox"/> Access Services 2010		
<input type="checkbox"/> Business Connectivity Services		
<input type="checkbox"/> Document Conversions		
<input type="checkbox"/> Document Management Server		
<input type="checkbox"/> eApproval		
<input type="checkbox"/> Education		
<input type="checkbox"/> Excel Services Application		
<input type="checkbox"/> InfoPath Forms Services		
<input type="checkbox"/> Office Automation Services		
<input type="checkbox"/> Office Services Infrastructure		
<input type="checkbox"/> PerformancePoint Service		
<input type="checkbox"/> Project Server		
<input type="checkbox"/> Search		
<input type="checkbox"/> Secure Store Service		
<input type="checkbox"/> Services Infrastructure		
<input type="checkbox"/> SharePoint Express		
<input type="checkbox"/> SharePoint Foundation		
<input type="checkbox"/> SharePoint Foundation Search		
<input type="checkbox"/> SharePoint Portal Server		
<input type="checkbox"/> SharePoint Server		
<input type="checkbox"/> SharePoint Server Search		
<input type="checkbox"/> SharePoint Translation Services		
<input type="checkbox"/> Visio Graphics Service		
<input type="checkbox"/> Web Content Management		
<input type="checkbox"/> Word Automation Services		

Least critical event to report to the event log

Least critical event to report to the trace log

```
PS C:\> Set-SPLogLevel -TraceSeverity Verbose -Identity General
```

```
PS C:\> Get-SPLogLevel | Clear-SPLogLevel
```



# Configure logging system - Log settings

## Configure trace logging

- Configure logging folder, history and max size
- Via Central Administration: Monitoring > Configure Diagnostic Logging
- Via PowerShell: Get-SPDiagnosticConfig and Set-SPDiagnosticConfig

### Trace Log

When tracing is enabled you may want the trace log to go to a certain location. Note: The location you specify must exist on all servers in the farm.

Additionally, you may set the maximum number of days to store log files and restrict the maximum amount of storage to use for logging. [Learn about using the trace log.](#)

#### Path

Example: %CommonProgramFiles%\Microsoft Shared\Web Server Extensions\16\LOGS

#### Number of days to store log files

#### Restrict Trace Log disk space usage

☐ Restrict Trace Log disk space usage

Maximum storage space for Trace Logs (GB)

# Correlation IDs

## Correlating logs

- A correlation ID is generated for each request.
- The correlation ID is available on many locations.

## ULS Log



## Sorry, something went wrong

An unexpected error has occurred.

### TECHNICAL DETAILS

[Troubleshoot issues with Microsoft SharePoint Foundation.](#)

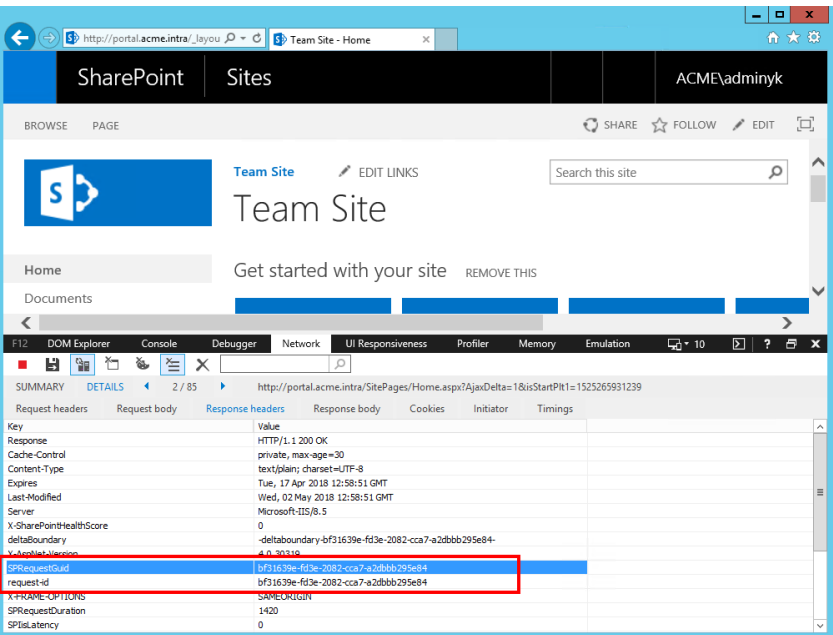
Correlation ID: 2f88c59d-c089-3000-15b3-8ef2e9ff1d93

Date and Time: 12/28/2016 8:49:27 AM

[GO BACK TO SITE](#)

## Error messages

## HTTP headers



# Using Correlation ID

## Using Correlation IDs

- Use Merge-SPLLogFile to retrieve all log entries of a specific Correlation ID **and** its child processes

**IMPORTANT:** Default timeframe is the last hour!

```
PS C:\> Merge-SPLLogFile -Correlation b235639e-cd86-2082-cca7-a9d8000c2cd5 -Path C:\log.txt

PS C:\> Merge-SPLLogFile -Correlation b235639e-cd86-2082-cca7-a9d8000c2cd5 -Path C:\log.txt
        -StartTime "01/05/2018 09:00" -EndTime "02/05/2018 12:00"
```

# Other useful logs



**Internet Information Services (IIS) logs**



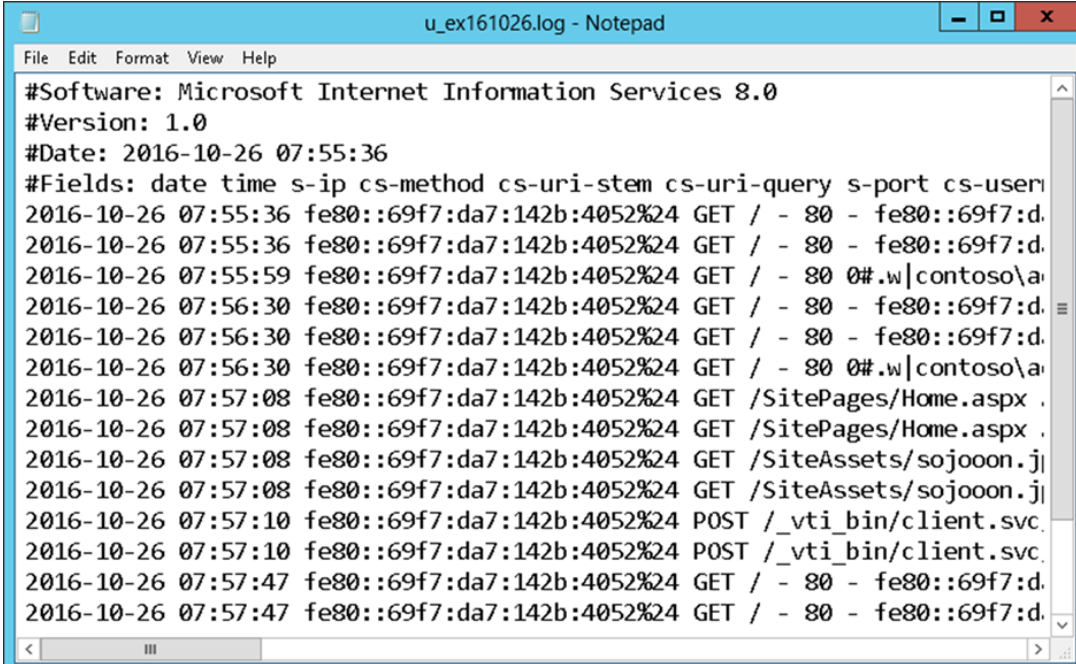
**Event logs**



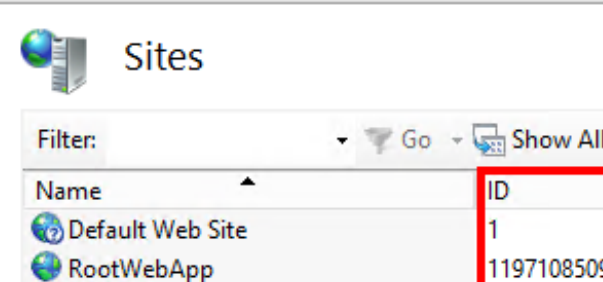
# IIS logs

## IIS logs

- Record data for a SharePoint web server in various fields such as - Client IP address, Server IP address, Method, HTTP status, Cookie and Protocol Sub status
- Helps to diagnose the SharePoint errors



```
u_ex161026.log - Notepad
File Edit Format View Help
#Software: Microsoft Internet Information Services 8.0
#Version: 1.0
#Date: 2016-10-26 07:55:36
#Fields: date time s-ip cs-method cs-uri-stem cs-uri-query s-port cs-user
2016-10-26 07:55:36 fe80::69f7:da7:142b:4052%24 GET / - 80 - fe80::69f7:d
2016-10-26 07:55:36 fe80::69f7:da7:142b:4052%24 GET / - 80 - fe80::69f7:d
2016-10-26 07:55:59 fe80::69f7:da7:142b:4052%24 GET / - 80 0#.w|contoso\
2016-10-26 07:56:30 fe80::69f7:da7:142b:4052%24 GET / - 80 - fe80::69f7:d
2016-10-26 07:56:30 fe80::69f7:da7:142b:4052%24 GET / - 80 - fe80::69f7:d
2016-10-26 07:56:30 fe80::69f7:da7:142b:4052%24 GET / - 80 0#.w|contoso\
2016-10-26 07:57:08 fe80::69f7:da7:142b:4052%24 GET /SitePages/Home.aspx
2016-10-26 07:57:08 fe80::69f7:da7:142b:4052%24 GET /SitePages/Home.aspx
2016-10-26 07:57:08 fe80::69f7:da7:142b:4052%24 GET /SiteAssets/sojooon.j
2016-10-26 07:57:08 fe80::69f7:da7:142b:4052%24 GET /SiteAssets/sojooon.j
2016-10-26 07:57:10 fe80::69f7:da7:142b:4052%24 POST /_vti_bin/client.svc
2016-10-26 07:57:10 fe80::69f7:da7:142b:4052%24 POST /_vti_bin/client.svc
2016-10-26 07:57:47 fe80::69f7:da7:142b:4052%24 GET / - 80 - fe80::69f7:d
2016-10-26 07:57:47 fe80::69f7:da7:142b:4052%24 GET / - 80 - fe80::69f7:d
```



Name	ID
Default Web Site	1
RootWebApp	1197108509

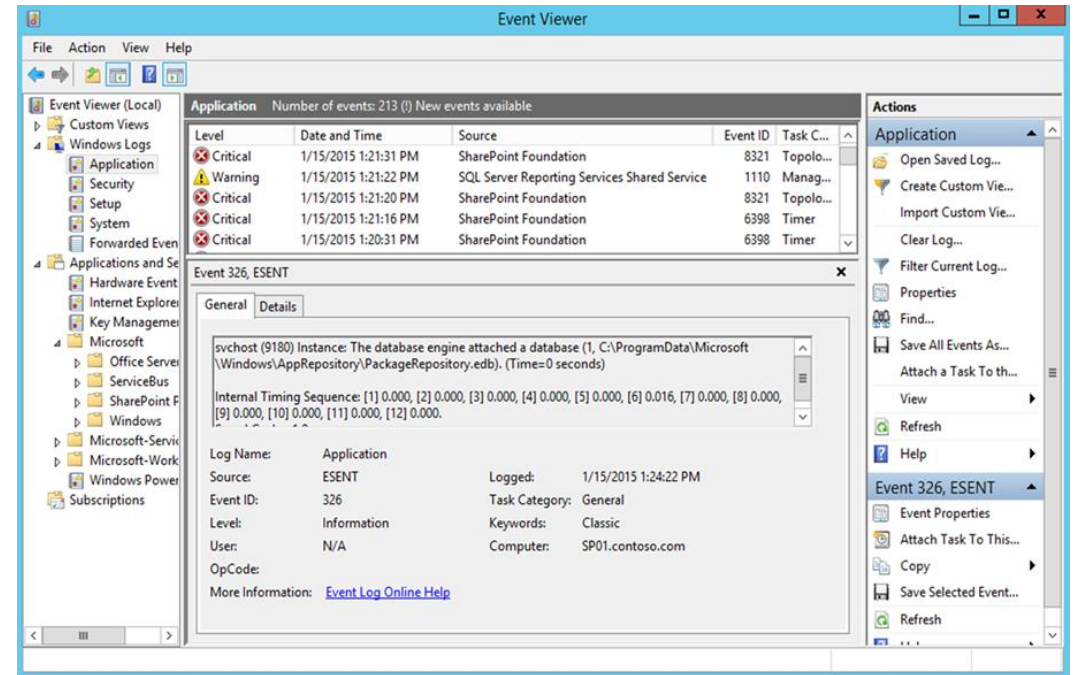
## Default location:

C:\inetpub\logs\LogFiles\W3SVC<website\_id>

# Event logs

## Event logs

- Have the same purpose as any operating system or application logs
- Can help diagnose problems with SharePoint



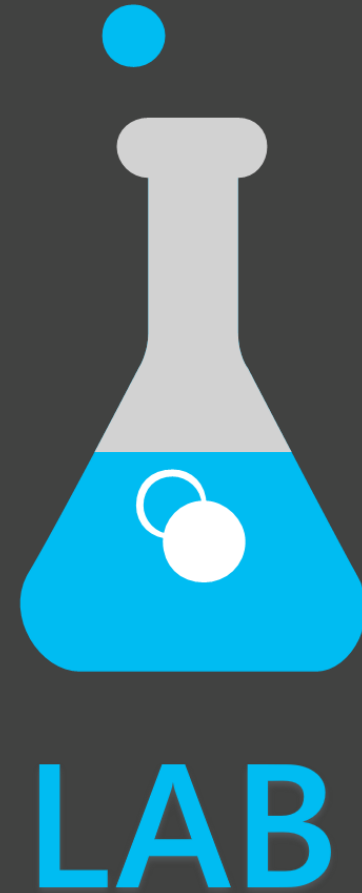
# Lab 5.1:

## Review the various logs in SharePoint

### Objectives

After completing this lab, you will be able to:

- Find and review log files used with SharePoint



# Knowledge Check

Which are the four SharePoint logs?

- Setup, Configuration, Upgrade and ULS logs

Which two non-SharePoint logs are also available?

- IIS and Event logs

Where can the Correlation ID be found?

- Error messages, HTTP Header, ULS logs



Questions?



