Module Name	Files - Methods	Breaking Changes
Znode.Projects.* and Znode.Multifront.PaymentApplication.*	.csProj, App.config, Packages.config and Web.config files	.NET Framework upgraded from 4.6 to 4.8 Detailed Breaking Changes in upgrading .NET Framework
MongoDB Software	NA	MongoDB version upgraded from 3.2.12 to 4.2.3 Detailed Breaking Changes in upgrading MongoDB
Znode.Projects.* and Znode.Multifront.PaymentApplication.*	packages.config and .csproj	MongoDB Drivers upgraded from 2.3.0 to 2.10.2 (in Multifront application) and from 2.0.1 to 2.10.2 (in Payment application) Breaking Changes in upgrading MongoDB drivers
Admin, API and webstore	API : BaseModel, Admin: BaseViewModel, Webstore : BaseViewModel	Changed the Custom Fields datatype from Object to string, to make it uniform throughout Znode application.
Znode.Engine.Services	OrderService.cs	Removed Method GenerateOrderAdditionalInfoTemplate
Znode.Admin.Core	CreateOrderViewModel	Added two new property ShippingMethod and AccountNumber
Znode.Admin.Core	OrderViewModel	Added two new property ShippingMethod and AccountNumber
Znode.Libraries.Ecommerce.Entities	ZnodeOrder	Added two new property ShippingMethod and AccountNumber
Znode.Webstore.Core	OrdersViewModel	Added two new property ShippingMethod and AccountNumber
Znode.Libraries.Elasticsearch		Elasticsearch.net and Nest Elastic Search clients updated from 5.5 to 7.6 .
Znode.Libraries.Elasticsearch	ElasticsearchIndexer.cs	Type parameter removed for all index APIs client code updated as below.**BulkResponse indexResponse = elasticClient.IndexMany<dynamic>(productsData, indexName);**
Znode.Libraries.Elasticsearch	ElasticsearchIndexer.cs	for elastic clients Indices Operations moved in Indices Namespace var response = elasticClient.Indices.Create(indexName, index => index.Map<ElasticsearchDocument>(x => x.AutoMap()));
All breaking changes for elastic search upgrade is added in doc link:		https://docs.google.com/document/d/1Xn12_mrZQb-fhOHenCyKDHQh1UYQPwPbCoKeyvKRpOs/edit#
	Elastic search version upgrade aAcceptance criteria :	**After upgrading the elastic search the old indexes need to be deleted**
Znode.Engine.Api	Web.config	Keys removed from config file <add key="AllowedPromocodes" value="" /> <add key="CalculateTaxAfterDiscount" value="true" /> updated both keys in ZnodeGlobalSettingTable and provided UI to update key Values from Admin Application in Global setting.
Znode.Engine.Services	SearchService	Added the new parameter as version id in GetExpand method.
Znode.Libraries.Elasticsearch	ElasticsearchIndexer Method Name: SetSearchTimeAnalyzers	Rename the analyser autocomplete_search_analyzer,So,need to delete the current elastic search index.(ZPD-8310)
Znode.Engine.Services	IsAllowIndexing	method has been made obsolete
Znode.Engine.Services	UpdateSeoPublishStatus	An optional paramter has been added IsRedirect
Znode.Engine.Services	Catalog Service	Method CreateMongoVersion,UpdateIsPublishedFlag,DeleteMongoVersion,CreateNewMongoVersion,SaveAttributeConfigurations,SaveSEOInMongo are made protected virtual instead of private
MonogoDb.DataModel	Catalog Entity	IsAllowIndexing is being introduced in catlog entity
Znode.Engine.Admin	DynamicGrid.ts	visible has been added.
Znode.Multifront.PaymentFramework.Business	ZnodeLogging- LogMessage	A new LogMessage method has been added with parameter Exception class object, component name, TraceLevel.
Znode.Multifront.PaymentApplication.API	Throughout the Payment Application - LogMessage	a. A new LogMessage method has been added with parameter Exception class object, component name, TraceLevel. b. Text File Error logging has been removed from Payment API. c. Log4Net logging is available to configure file, SMTP, Mongo db logging. d. The configuration settings for file logging, SMTP logging,Mongo db etc. can be configured from log4net.config.
Znode.Libraries.Admin	ZnodeReceiptHelper	Removed the keyword ref and replaced Replace(ref tempRepeat, ref rdrData) to Replace(ref tempRepeat, rdrData) inside Parse(string RepeatSection, DataTableReader rdrData) method. Also removed the keyword and replaced Replace(ref _output, ref rdrData) to Replace(ref _output, rdrData) inside the Parse(DataTableReader rdrData) method.The same keyword was removed and replaced Replace(ref tempRepeat, ref rdrData) to Replace(ref tempRepeat, rdrData) inside the ParseWithGroup method and the protected virtual void Replace(ref string output, ref DataTableReader rdrData) was changed to protected virtual void Replace(ref string output, DataTableReader rdrData). This ref keyword was removed as it was unused and there was unnecessary memory utilization.
Znode.Engine.Services	ZnodeEventObserver	OnPublishCategory(List<int> model) event is obsolete and new event is introduce as OnPublishCategory(List<CategoryPublishEventModel> model)
Procedure	Znode_GetPublishProducts & Znode_GetPublishSingleCategory	SeoUrl is returned from these procedures
Database script	ZnodeActions table	IsGlobalAccess flag is set to 0 in default script in the ZnodeActions table for the Controller ="MediaManager" and Action = "List"
Znode.Webstore.Core	WidgetDataAgent constructor	Added extra parameter ICMSPageSearchClient in WidgetDataAgent constructor to get instance CMSPageSearchClient.
Znode.Libraries.Elasticsearch	ElasticsearchIndexer.cs	Removed SetNgramTokenFilter(),SetTokenizers(),SetShingleTokenFilter(),SetStemmingFilter(),SetCustomAnalyzer(), method and shifted to the SearchIndexSettingHelper.cs
Znode.Engine.Admin.Agents	SearchConfigurationAgent.cs	In the constructor additional parameter ICMSPageSearchClient cmsPageSearchClient is being introduced.
Znode.Libraries.Admin	ZnodeProductFeed.cs	Added one overload method for GetProductDataFromMongo(string commaSepCatalogIds, int localeId, string commaSeparatedCategoryIds) and pass one extra filter to mongo for getting the proper associated product.
Znode.Engine.APIModel	SEODetailsModel.cs	Increase limit from 100 to 1000 for the SEOUrl & SEODescription properties
Znode.Admin.Core	SEODetailsViewModel	Increase limit from 100 to 1000 for the SEOUrl properties.
Znode.Admin.Core	GetSuggestions method of TypeaheadController	Added two parameters mappingId (is used for passing filter to get the suggestion) and pageSize (Record size which you want ot show on the typeahed field)
Znode.Engine.Admin	AutoCompleteHelpers	made the chnage of {{Dictionary<string, object>.htmlAttributes).Add("data-load-once", loadOnce ? "true" : "false"); in CreateTextBoxForFromFastSelectFor method
Webstore Redirection	UrlRedirectAgent.cs	Append portal Id in cache key for storing 301 URL redirect
Admin Store Setting	Functional Changes	Check all ative store Page setting as previously portal filter was not there so it shows all but now if portal filter is there so its show correct now.
Elastic Search	No code breaking change	But to work this bug fine we need to delete the existing index and create the new index(ZPD-9652)
Znode.Admin.Core	SearchIndexMonitorListViewModel	Added new property with below mentioned signature: public int PublishCatalogId { get; set; }
Znode.Engine.Admin	Search.ts	ReturnBackToList this method is updated, query string will no longer be created for back URL. Now query string is not required in back URL so, removed GetURLParameter method.
Znode.Admin.Core	SearchBoostAndBuryAgent and ISearchBoostAndBuryAgent	Below mentioned method with signature is marked as Obsolete: *public SearchBoostAndBuryRuleListViewModel GetBoostAndBuryRules(FilterCollectionDataModel model, int catalogId, string catalogName)* Instead of above mentioned method following method will be used: *public SearchBoostAndBuryRuleListViewModel GetBoostAndBuryRules(FilterCollectionDataModel model)*
Znode.Admin.Core	SearchProfileAgent and ISearchProfileAgent	Below mentioned method with signature is marked as Obsolete: *public SearchProfileListViewModel GetSearchProfileList(ExpandCollection expands, FilterCollection filters, SortCollection sorts, int? pageIndex, int? pageSize, int catalogId, string catalogName)* Instead of above mentioned method following method will be used: *public SearchProfileListViewModel GetSearchProfileList(ExpandCollection expands, FilterCollection filters, SortCollection sorts, int? pageIndex, int? pageSize)*
Znode.Admin.Core	SearchConfigurationAgent and ISearchConfigurationAgent	Below mentioned method with signature is marked as Obsolete: *public virtual PortalIndexViewModel GetPortalIndexData(int publishCatalogId)* Instead of above mentioned method following method will be used: *public virtual PortalIndexViewModel GetPortalIndexData(FilterCollection filters, int publishCatalogId)*
Znode.Admin.Core	SearchConfigurationAgent and ISearchConfigurationAgent	Below mentioned method with signature is marked as Obsolete: *public virtual SearchSynonymsListViewModel GetSearchSynonymsList(int catalogId, ExpandCollection expands, FilterCollection filters, SortCollection sortCollection, int page, int recordPerPage)* Instead of above mentioned method following method will be used: *public virtual SearchSynonymsListViewModel GetSearchSynonymsList(ExpandCollection expands, FilterCollection filters, SortCollection sortCollection, int page, int recordPerPage)*
Znode.Admin.Core	SearchConfigurationAgent and ISearchConfigurationAgent	Below mentioned method with signature is marked as Obsolete: *public SearchKeywordsRedirectListViewModel GetCatalogKeywordsList(int catalogId, ExpandCollection expands, FilterCollection filters, SortCollection sortCollection, int page, int recordPerPage)* Instead of above mentioned method following method will be used: *public SearchKeywordsRedirectListViewModel GetCatalogKeywordsList(ExpandCollection expands, FilterCollection filters, SortCollection sortCollection, int page, int recordPerPage)*
Search profiles, synonyms, boost & bury, keywords redirect and manage pim index tab list pages	DB tables: ZnodeListView and ZnodeListViewFilters	For catalog filter shortcut to work with system view and session, unwanted filters which are already saved against the view needs to be deleted first.
Znode.Engine.Api.Client Znode.Engine.Services Znode.Admin.Core	Znode.Engine.Api.Client: IRecommendationClient, RecommendationClient, RecommendationEndpoint Znode.Engine.Services: IRecommendationService and RecommendationService Znode.Admin.Core: IRecommendationAgent and RecommendationAgent	An additional parameter of string type is introduced in GetRecommendationSetting method to specify touchpoint name. Method signature: public virtual RecommendationSettingModel GetRecommendationSetting(int portalId, string touchPointName)
Znode.Engine.Api.Models Znode.Engine.Admin.ViewModels	Znode.Engine.Api.Models: RecommendationSettingModel Znode.Engine.Admin.ViewModels: RecommendationSettingViewModel	Two new properties are introduced in these existing models to handle scheduler operations. These properties are mentioned below: 1. public string TouchPointName { get; set; } 2. public int ERPTaskSchedulerId { get; set; }