
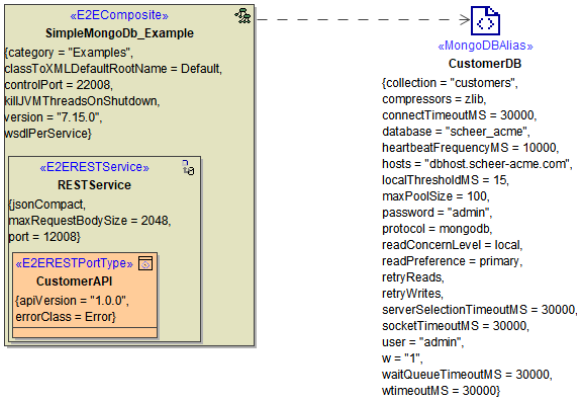


MongoDB Components

 This page explains the **MongoDB Adapter** in Bridge context. If you were looking for the same information regarding the **PAS Designer**, refer to **MongoDB Adapter** in the Designer guide.

The following figure shows a component diagram that features a MongoDB database.



The **<<MongoDBAlias>> CustomerDB** connects the xUML service to the MongoDB. Each **<<MongoDBAdapter>>** referencing the same alias connects to the same database.

The settings on the **<<MongoDBAlias>>** are used to build the **MongoDB connection string** and to set database connection options. Each alias will create a separate connection pool. For each request, the xUML Runtime will use one connection from this pool for the entire request duration.

To use the MongoDB adapter it is helpful if you are familiar with the MongoDB options. Each listed tagged value is setting the MongoDB option having the same name. Please refer to the **MongoDB manual** for more information on each option.

Tagged Value	Description	Allowed Values / Examples	
Protocol (protocol)	Specifies the protocol to be used with this connection.	mongodb	Use the standard MongoDB connection protocol (default).
		mongodb+srv	Use DNS seed list.
Hosts (hosts)	Specifies a list of MongoDB host with optional ports (one list entry per line).	scheer-acme.com db.scheer-acme.com:2701	
Replica Set (replicaSet)	Specifies a replica set name.		
Database (database)	Specifies the default database to be used.		
Collection (collection)	Specifies the default collection to be used.		
xUML Runtime Use Transactions (xUMLRuntimeUseTransactions)	Specifies whether to use automatic transactions with replica sets. If enabled, the xUML Runtime will apply the transaction concepts as documented on xUML Runtime Transaction Concepts . Transactions can only be enabled when using replica sets. Also, some options like read/write concerns make it impossible to use transactions. If a conflict can be detected, the Runtime refuses to start. Use with caution, and refer to the MongoDB manual for more information.	true	Use automatic transactions on replica sets.
		false	Do not use automatic transactions on replica sets (default).
Authentication			

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Related Pages:

- [MongoDB Components](#)
- [Querying MongoDB](#)
- [Updating MongoDB Documents](#)
- [Aggregating Data](#)
- [Inserting and Deleting Documents](#)
- [MongoDB Adapter Reference](#)

Related Documentation:

- [MongoDB Manual](#)
- [MongoDB Connection String](#)

User (user)	Specifies the database user (if the database requires authentication). If the user contains characters that MongoDB has defined as to be illegal, they will be converted correctly to percent encoding.		
Password (password)	Specifies the password of user (if the database requires authentication). If the password contains characters that MongoDB has defined as to be illegal, they will be converted correctly to percent encoding.		
Defaultauthdb (defaultauthdb)	Specifies the defaultauthdb option, the authentication database to be used if user and password are provided.		
Auth Source (authSource)	Specifies the authSource option, the database name that is associated with the provided credentials.		
Auth Mechanism (authMechanism)	Specifies the authMechanism option, the authentication mechanism to be used to authenticate the connection.		
Auth Mechanism Properties (authMechanismProperties)	Specifies the authMechanismProperties option, the properties of the specified authMechanism as a comma-separated list of colon-separated key-value pairs.	CANNONICALIZE_HOST_NAME: true, AWS_SESSION_TOKEN: FQoGZXIvYXZlZn...	
Compression			
Compressors (compressors)	Specifies the compressors option, the compressor to be used for network communication.	zlib	Use zlib compression.
		none	No compression.
Zlib Compression Level (zlibCompressionLevel)	Specifies the zlibCompressionLevel option, compression level if zlib compression is used.	-1	zlib default
		0	no compression
		1-9	compression level
Misc			
Retry Reads (retryReads)	Specifies the retryReads option. This option enables retryable reads.	true	Retry reads (default).
		false	Do not retry reads.
Retry Writes (retryWrites)	Specifies the retryWrites option. This option enables retryable writes.	true	Retry writes (default)
		false	Do not retry writes.
Pooling			
Max Pool Size (maxPoolSize)	Specifies the maxPoolSize option, the maximum number of connections in the connection pool.	any positive integer	
		100	default
Wait Queue Timeout MS (waitQueueTimeoutMS)	Specifies the waitQueueTimeoutMS option, the maximum wait time for a client connection to become available from the pool.	any positive integer	
		30000	default
Read Concern			
Read Concern Level (readConcernLevel)	Specifies the readConcernLevel option. Refer to the MongoDB manual for more details.	One of: local (default), majority, linearizable, available, snapshot	
Read preference			

Read Preference (readPreference)	Specifies the readPreference option. Refer to the MongoDB manual for more details.	One of: primary (default), primaryPreferred, secondary, secondaryPreferred, nearest	
Max Staleness Seconds (maxStalenessSeconds)	Specifies the maxStalenessSeconds option, how stale a secondary can be before the client stops using it for read operations.	any positive integer >= 90	
		-1	default
ReadPreferenceTags (readPreferenceTags)	Specifies the readPreferenceTags option.		
Server selection & discovery			
Local Threshold MS (localThresholdMS)	Specifies the localThresholdMS option.	any positive integer	
		15	default
Server Selection Timeout MS (serverSelectionTimeoutMS)	Specifies the serverSelectionTimeoutMS option.	any positive integer	
		30000	default
Heartbeat Frequency MS (heartbeatFrequencyMS)	Specifies the heartbeatFrequencyMS option.	any positive integer	
		10000	default
TLS			
Tls (tls)	Specifies the tls option, used to enable/disable TLS.	true	Enable TLS.
		false	Disable TLS (default).
Tls Certificate Key File (tlsCertificateKeyFile)	Specifies the tlsCertificateKeyFile option, the path to a .pem file that contains either the TLS/SSL X.509 certificate of the client, or the client's TLS/SSL certificate and key.		
Tls Certificate Key File Password (tlsCertificateKeyFilePassword)	Specifies the tlsCertificateKeyFilePassword option, the password to decrypt the certificate file.		
Tls CA File (tlsCAFile)	Specifies the tlsCAFile option, the path to a .pem file that contains the root certificate chain of the certificate authority. This file is used to validate the certificate presented by the database instance.		
Tls Allow Invalid Certificates (tlsAllowInvalidCertificates)	Specifies the tlsAllowInvalidCertificates option, used to allow invalid certificates.	true	Bypass certificate validation.
		false	Validate the certificate presented by the database instance (default).
Tls Allow Invalid Hostnames (tlsAllowInvalidHostnames)	Specifies the tlsAllowInvalidHostnames option, used to disable hostname validation.	true	Do not validate the hostname of the certificate presented by the database instance.
		false	Validate the hostname of the certificate presented by the database instance (default).

Tls Insecure (tlsInsecure)	Specifies the tlsInsecure option.	true	Disable TLS various certificate validations. Refer to the MongoDB manual for details.
		false	Validate TLS certificates (default).
Timeout			
Connect Timeout MS (connectTimeoutMS)	Specifies the connectTimeoutMS option, the time in milliseconds a connection is attempted before it times out.	any positive integer	
		30000	default
Socket Timeout MS (socketTimeoutMS)	Specifies the socketTimeoutMS option, the time in milliseconds a send or receive is attempted on a socket before it times out.	any positive integer	
		30000	default
Write Concern			
W (w)	Specifies the w option. This option requests acknowledgement that a write operation has been propagated to the specified number of MongoDB instances or MongoDB instances with specific tags.	a positive integer (default 1)	Acknowledge propagation to the given number of databases.
		majority	Acknowledge propagation to the majority of databases.
		a tag set	Acknowledge propagation to the databases with the specified tags.
Wtimeout MS (wtimeoutMS)	Specifies the wtimeoutMS option, the time limit for the write concern in milliseconds.	any positive integer	
		30000	default
Journal (journal)	Specifies the journal option. This option requests acknowledgement from the database that the write operation has been written to the journal.	true	Request acknowledgement for write operations.
		false	No acknowledgement of write operations (default).

Dynamic Database and Collection Access

You can specify the database and collection you want to use in three locations. These locations are treated by the xUML Runtime in the following hierarchy:

Ranking	Location	Description
1	adapter action	Use the action parameters database and collation if provided.
2	<<MongoDBAdapter>>	Use database and collation specified on the adapter if not provided via parameter.
3	<<MongoDBAlias>>	Use database and collation from the alias if not provided for this dedicated action.