



# Status Codes

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# Neo4j v4.0

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The Neo4j status codes for Neo4j v4.0.

Each status code follows the same format:

```
Neo.[Classification].[Category].[Title]
```

The fact that a status code is returned by the server does always mean there is a fatal error. Status codes can also indicate transient problems that may go away if you retry the request.

What the effect of the status code is can be determined by the classification.

# Classifications

Classification	Description	Effect on transaction
ClientError	The Client sent a bad request - changing the request might yield a successful outcome.	Rollback
ClientNotification	There are notifications about the request sent by the client.	None
TransientError	The database cannot service the request right now, retrying later might yield a successful outcome.	Rollback
DatabaseError	The database failed to service the request.	Rollback

# Status codes

This is a complete list of all status codes Neo4j may return, and what they mean.

Status Code	Description
<code>Neo.ClientError.Cluster.NotALeader</code>	The request cannot be processed by this server. Write requests can only be processed by the leader.
<code>Neo.ClientError.Cluster.TransactionSizeExceedsLimit</code>	Transaction size exceeds supported limit.
<code>Neo.ClientError.Database.DatabaseNotFound</code>	The request referred to a database that does not exist.
<code>Neo.ClientError.Database.ExistingDatabaseFound</code>	The request referred to a database that already exists.
<code>Neo.ClientError.Fabric.AccessMode</code>	The request could not be completed due to access mode violation
<code>Neo.ClientError.General.ForbiddenOnReadOnlyDatabase</code>	This is a read only database, writing or modifying the database is not allowed.
<code>Neo.ClientError.General.InvalidArguments</code>	The request contained fields that were empty or are not allowed.
<code>Neo.ClientError.Procedure.ProcedureCallFailed</code>	Failed to invoke a procedure. See the detailed error description for exact cause.
<code>Neo.ClientError.Procedure.ProcedureNotFound</code>	A request referred to a procedure that is not registered with this database instance. If you are deploying custom procedures in a cluster setup, ensure all instances in the cluster have the procedure jar file deployed.
<code>Neo.ClientError.Procedure.ProcedureRegistrationFailed</code>	The database failed to register a procedure, refer to the associated error message for details.
<code>Neo.ClientError.Procedure.ProcedureTimedOut</code>	The procedure has not completed within the specified timeout. You may want to retry with a longer timeout.
<code>Neo.ClientError.Procedure.TypeError</code>	A procedure is using or receiving a value of an invalid type.
<code>Neo.ClientError.Request.Invalid</code>	The client provided an invalid request.
<code>Neo.ClientError.Request.InvalidFormat</code>	The client provided a request that was missing required fields, or had values that are not allowed.
<code>Neo.ClientError.Request.InvalidUsage</code>	The client made a request but did not consume outgoing buffers in a timely fashion.
<code>Neo.ClientError.Schema.ConstraintAlreadyExists</code>	Unable to perform operation because it would clash with a pre-existing constraint.
<code>Neo.ClientError.Schema.ConstraintNotFound</code>	The request (directly or indirectly) referred to a constraint that does not exist.
<code>Neo.ClientError.Schema.ConstraintValidationFailed</code>	A constraint imposed by the database was violated.
<code>Neo.ClientError.Schema.ConstraintViolation</code>	Added or changed index entry would violate constraint.
<code>Neo.ClientError.Schema.ConstraintWithNameAlreadyExists</code>	Unable to perform operation because constraint with given name already exists.

Status Code	Description
<code>Neo.ClientError.Schema.EquivalentSchemaRuleAlreadyExists</code>	Unable to perform operation because an equivalent schema rule already exists.
<code>Neo.ClientError.Schema.ForbiddenOnConstraintIndex</code>	A requested operation can not be performed on the specified index because the index is part of a constraint. If you want to drop the index, for instance, you must drop the constraint.
<code>Neo.ClientError.Schema.IndexAlreadyExists</code>	Unable to perform operation because it would clash with a pre-existing index.
<code>Neo.ClientError.Schema.IndexMultipleFound</code>	The request referenced an index by its schema, and multiple matching indexes were found.
<code>Neo.ClientError.Schema.IndexNotApplicable</code>	The request did not contain the properties required by the index.
<code>Neo.ClientError.Schema.IndexNotFound</code>	The request (directly or indirectly) referred to an index that does not exist.
<code>Neo.ClientError.Schema.IndexWithNameAlreadyExists</code>	Unable to perform operation because index with given name already exists.
<code>Neo.ClientError.Schema.RepeatedLabelInSchema</code>	Unable to create index or constraint because schema had a repeated label.
<code>Neo.ClientError.Schema.RepeatedPropertyInCompositeSchema</code>	Unable to create index or constraint because schema had a repeated property.
<code>Neo.ClientError.Schema.RepeatedRelationshipTypeInSchema</code>	Unable to create index or constraint because schema had a repeated relationship type.
<code>Neo.ClientError.Schema.TokenNameError</code>	A token name, such as a label, relationship type or property key, used is not valid. Tokens cannot be empty strings and cannot be null.
<code>Neo.ClientError.Security.AuthenticationRateLimit</code>	The client has provided incorrect authentication details too many times in a row.
<code>Neo.ClientError.Security.AuthorizationExpired</code>	The stored authorization info has expired. Please reconnect.
<code>Neo.ClientError.Security.CredentialsExpired</code>	The credentials have expired and need to be updated.
<code>Neo.ClientError.Security.Forbidden</code>	An attempt was made to perform an unauthorized action.
<code>Neo.ClientError.Security.Unauthorized</code>	The client is unauthorized due to authentication failure.
<code>Neo.ClientError.Statement.ArgumentError</code>	The statement is attempting to perform operations using invalid arguments.
<code>Neo.ClientError.Statement.ArithmeticError</code>	Invalid use of arithmetic, such as dividing by zero.
<code>Neo.ClientError.Statement.ConstraintVerificationFailed</code>	A constraint imposed by the statement is violated by the data in the database.
<code>Neo.ClientError.Statement.EntityNotFound</code>	The statement refers to a non-existent entity.
<code>Neo.ClientError.Statement.ExternalResourceFailed</code>	Access to an external resource failed.
<code>Neo.ClientError.Statement.NotSystemDatabaseError</code>	This is an administration command and it should be executed against the system database.

Status Code	Description
<code>Neo.ClientError.Statement.ParameterMissing</code>	The statement refers to a parameter that was not provided in the request.
<code>Neo.ClientError.Statement.PropertyNotFound</code>	The statement refers to a non-existent property.
<code>Neo.ClientError.Statement.RuntimeUnsupportedError</code>	This query is not supported by the chosen runtime.
<code>Neo.ClientError.Statement.SemanticError</code>	The statement is syntactically valid, but expresses something that the database cannot do.
<code>Neo.ClientError.Statement.SyntaxError</code>	The statement contains invalid or unsupported syntax.
<code>Neo.ClientError.Statement.TypeError</code>	The statement is attempting to perform operations on values with types that are not supported by the operation.
<code>Neo.ClientError.Transaction.ForbiddenDueToTransactionType</code>	The transaction is of the wrong type to service the request. For instance, a transaction that has had schema modifications performed in it cannot be used to subsequently perform data operations, and vice versa.
<code>Neo.ClientError.Transaction.InvalidBookmark</code>	Supplied bookmark cannot be interpreted. You should only supply a bookmark that was previously generated by Neo4j. Maybe you have generated your own bookmark, or modified a bookmark since it was generated by Neo4j.
<code>Neo.ClientError.Transaction.InvalidBookmarkMixture</code>	Mixing bookmarks generated by different databases is forbidden. You should only chain bookmarks that are generated from the same database. You may however chain bookmarks generated from system database with bookmarks from another database.
<code>Neo.ClientError.Transaction.TransactionAccessedConcurrently</code>	There were concurrent requests accessing the same transaction, which is not allowed.
<code>Neo.ClientError.Transaction.TransactionHookFailed</code>	Transaction hook failure.
<code>Neo.ClientError.Transaction.TransactionMarkedAsFailed</code>	Transaction was marked as both successful and failed. Failure takes precedence and so this transaction was rolled back although it may have looked like it was going to be committed.
<code>Neo.ClientError.Transaction.TransactionNotFound</code>	The request referred to a transaction that does not exist.
<code>Neo.ClientError.Transaction.TransactionTimeout</code>	The transaction has not completed within the specified timeout ( <code>dbms.transaction.timeout</code> ). You may want to retry with a longer timeout.
<code>Neo.ClientError.Transaction.TransactionValidationFailed</code>	Transaction changes did not pass validation checks.
<code>Neo.ClientNotification.Procedure.ProcedureWarning</code>	The query used a procedure that generated a warning.
<code>Neo.ClientNotification.Statement.CartesianProductWarning</code>	This query builds a cartesian product between disconnected patterns.
<code>Neo.ClientNotification.Statement.DynamicPropertyWarning</code>	Queries using dynamic properties will use neither index seeks nor index scans for those properties.

Status Code	Description
<code>Neo.ClientNotification.Statement.EagerOperatorWarning</code>	The execution plan for this query contains the Eager operator, which forces all dependent data to be materialized in main memory before proceeding.
<code>Neo.ClientNotification.Statement.ExhaustiveShortestPathWarning</code>	Exhaustive shortest path has been planned for your query that means that shortest path graph algorithm might not be used to find the shortest path. Hence an exhaustive enumeration of all paths might be used in order to find the requested shortest path.
<code>Neo.ClientNotification.Statement.ExperimentalFeature</code>	This feature is experimental and should not be used in production systems.
<code>Neo.ClientNotification.Statement.FeatureDeprecationWarning</code>	This feature is deprecated and will be removed in future versions.
<code>Neo.ClientNotification.Statement.JoinHintUnfulfillableWarning</code>	The database was unable to plan a hinted join.
<code>Neo.ClientNotification.Statement.NoApplicableIndexWarning</code>	Adding a schema index may speed up this query.
<code>Neo.ClientNotification.Statement.RuntimeUnsupportedWarning</code>	This query is not supported by the chosen runtime.
<code>Neo.ClientNotification.Statement.SuboptimalIndexForWildcardQuery</code>	Index cannot execute wildcard query efficiently.
<code>Neo.ClientNotification.Statement.UnboundedVariableLengthPatternWarning</code>	The provided pattern is unbounded, consider adding an upper limit to the number of node hops.
<code>Neo.ClientNotification.Statement.UnknownLabelWarning</code>	The provided label is not in the database.
<code>Neo.ClientNotification.Statement.UnknownPropertyKeyWarning</code>	The provided property key is not in the database.
<code>Neo.ClientNotification.Statement.UnknownRelationshipTypeWarning</code>	The provided relationship type is not in the database.
<code>Neo.DatabaseError.Cluster.SerializationFailure</code>	Failed to serialise the transaction.
<code>Neo.DatabaseError.Database.DatabaseLimitReached</code>	The limit to number of databases has been reached.
<code>Neo.DatabaseError.Database.UnableToStartDatabase</code>	Unable to start database.
<code>Neo.DatabaseError.Database.Unknown</code>	Unknown database management error.
<code>Neo.DatabaseError.Fabric.RemoteExecutionFailed</code>	The database was unable to execute a remote part of the statement.
<code>Neo.DatabaseError.General.IndexCorruptionDetected</code>	The request (directly or indirectly) referred to an index that is in a failed state. The index needs to be dropped and recreated manually.
<code>Neo.DatabaseError.General.SchemaCorruptionDetected</code>	A malformed schema rule was encountered. Please contact your support representative.
<code>Neo.DatabaseError.General.StorageDamageDetected</code>	Expected set of files not found on disk. Please restore from backup.
<code>Neo.DatabaseError.General.UnknownError</code>	An unknown error occurred.
<code>Neo.DatabaseError.Schema.ConstraintCreationFailed</code>	Creating a requested constraint failed.



Status Code	Description
<code>Neo.DatabaseError.Schema.ConstraintDropFailed</code>	The database failed to drop a requested constraint.
<code>Neo.DatabaseError.Schema.IndexCreationFailed</code>	Failed to create an index.
<code>Neo.DatabaseError.Schema.IndexDropFailed</code>	The database failed to drop a requested index.
<code>Neo.DatabaseError.Schema.LabelAccessFailed</code>	The request accessed a label that did not exist.
<code>Neo.DatabaseError.Schema.PropertyKeyAccessFailed</code>	The request accessed a property that does not exist.
<code>Neo.DatabaseError.Schema.RelationshipTypeAccessFailed</code>	The request accessed a relationship type that does not exist.
<code>Neo.DatabaseError.Schema.SchemaRuleAccessFailed</code>	The request referred to a schema rule that does not exist.
<code>Neo.DatabaseError.Schema.SchemaRuleDuplicateFound</code>	The request referred to a schema rule that is defined multiple times.
<code>Neo.DatabaseError.Schema.TokenLimitReached</code>	The maximum number of tokens of this type has been reached, no more tokens of this type can be created.
<code>Neo.DatabaseError.Statement.CodeGenerationFailed</code>	The database was unable to generate code for the query. A stacktrace can be found in the <code>debug.log</code> .
<code>Neo.DatabaseError.Statement.ExecutionFailed</code>	The database was unable to execute the statement.
<code>Neo.DatabaseError.Transaction.TransactionCommitFailed</code>	The database was unable to commit the transaction.
<code>Neo.DatabaseError.Transaction.TransactionLogError</code>	The database was unable to write transaction to log.
<code>Neo.DatabaseError.Transaction.TransactionRollbackFailed</code>	The database was unable to roll back the transaction.
<code>Neo.DatabaseError.Transaction.TransactionStartFailed</code>	The database was unable to start the transaction.
<code>Neo.TransientError.Cluster.ReplicationFailure</code>	Replication failure.
<code>Neo.TransientError.Database.DatabaseUnavailable</code>	The database is not currently available to serve your request, refer to the database logs for more details. Retrying your request at a later time may succeed.
<code>Neo.TransientError.General.OutOfMemoryError</code>	There is not enough memory to perform the current task. Please try increasing <code>dbms.memory.heap.max_size</code> in the neo4j configuration (normally in <code>conf/neo4j.conf</code> or, if you are using Neo4j Desktop, found through the user interface) or if you are running an embedded installation increase the heap by using <code>-Xmx</code> command line flag, and then restart the database.
<code>Neo.TransientError.General.StackOverflowError</code>	There is not enough stack size to perform the current task. This is generally considered to be a database error, so please contact Neo4j support. You could try increasing the stack size: for example to set the stack size to <code>2M</code> , add <code>dbms.jvm.additional=-Xss2M</code> to in the neo4j configuration (normally in <code>conf/neo4j.conf</code> or, if you are using Neo4j Desktop, found through the user interface) or if you are running an embedded installation just add <code>-Xss2M</code> as command line flag.

Status Code	Description
<code>Neo.TransientError.General.TransactionMemoryLimit</code>	There is not enough memory to perform the current task. Please try increasing <code>dbms.tx_state.max_off_heap_memory</code> in the neo4j configuration (normally in <code>conf/neo4j.conf</code> or, if you are using Neo4j Desktop, found through the user interface), and then restart the database.
<code>Neo.TransientError.General.TransactionOutOfMemoryError</code>	The transaction used more memory than was allowed. The maximum allowed size for a transaction can be configured with <code>unsupported.dbms.transaction.memory.max</code> in the neo4j configuration (normally in <code>conf/neo4j.conf</code> or, if you are using Neo4j Desktop, found through the user interface).
<code>Neo.TransientError.Request.NoThreadsAvailable</code>	There are no available threads to serve this request at the moment. You can retry at a later time or consider increasing max thread pool size for bolt connector(s).
<code>Neo.TransientError.Security.AuthProviderFailed</code>	An auth provider request failed.
<code>Neo.TransientError.Security.AuthProviderTimeout</code>	An auth provider request timed out.
<code>Neo.TransientError.Security.ModifiedConcurrently</code>	The user was modified concurrently to this request.
<code>Neo.TransientError.Transaction.BookmarkTimeout</code>	Bookmark wait timed out. Database has not reached the specified version.
<code>Neo.TransientError.Transaction.ConstraintsChanged</code>	Database constraints changed since the start of this transaction.
<code>Neo.TransientError.Transaction.DeadlockDetected</code>	This transaction, and at least one more transaction, has acquired locks in a way that it will wait indefinitely, and the database has aborted it. Retrying this transaction will most likely be successful.
<code>Neo.TransientError.Transaction.Interrupted</code>	Interrupted while waiting.
<code>Neo.TransientError.Transaction.LeaseExpired</code>	The lease under which this transaction was started is no longer valid.
<code>Neo.TransientError.Transaction.LockAcquisitionTimeout</code>	Unable to acquire lock within configured timeout ( <code>dbms.lock.acquisition.timeout</code> ).
<code>Neo.TransientError.Transaction.LockClientStopped</code>	The transaction has been terminated, so no more locks can be acquired. This can occur because the transaction ran longer than the configured transaction timeout, or because a human operator manually terminated the transaction, or because the database is shutting down.
<code>Neo.TransientError.Transaction.MaximumTransactionLimitReached</code>	Unable to start new transaction since the maximum number of concurrently executing transactions is reached ( <code>dbms.transaction.concurrent.maximum</code> ). You can retry at a later time or consider increasing allowed maximum of concurrent transactions.
<code>Neo.TransientError.Transaction.Outdated</code>	Transaction has seen state which has been invalidated by applied updates while transaction was active. Transaction may succeed if retried.
<code>Neo.TransientError.Transaction.Terminated</code>	Explicitly terminated by the user.

# Neo4j version changes

## Neo4j 4.0

### New:

```
Neo.ClientError.Cluster.TransactionSizeExceedsLimit
Neo.ClientError.Database.DatabaseNotFound
Neo.ClientError.Database.ExistingDatabaseFound
Neo.ClientError.Fabric.AccessMode
Neo.ClientError.Schema.ConstraintViolation
Neo.ClientError.Schema.ConstraintWithNameAlreadyExists
Neo.ClientError.Schema.EquivalentSchemaRuleAlreadyExists
Neo.ClientError.Schema.IndexMultipleFound
Neo.ClientError.Schema.IndexWithNameAlreadyExists
Neo.ClientError.Statement.NotSystemDatabaseError
Neo.ClientError.Statement.RuntimeUnsupportedError
Neo.ClientError.Transaction.InvalidBookmarkMixture
Neo.DatabaseError.Cluster.SerializationFailure
Neo.DatabaseError.Database.DatabaseLimitReached
Neo.DatabaseError.Database.UnableToStartDatabase
Neo.DatabaseError.Database.Unknown
Neo.DatabaseError.Fabric.RemoteExecutionFailed
Neo.DatabaseError.Schema.TokenLimitReached
Neo.DatabaseError.Statement.CodeGenerationFailed
Neo.TransientError.Database.DatabaseUnavailable
Neo.TransientError.General.TransactionMemoryLimit
Neo.TransientError.General.TransactionOutOfMemoryError
Neo.TransientError.Transaction.BookmarkTimeout
Neo.TransientError.Transaction.LeaseExpired
Neo.TransientError.Transaction.MaximumTransactionLimitReached
```

### Removed:

```
Neo.ClientError.LegacyIndex.LegacyIndexNotFound
Neo.ClientError.Request.TransactionRequired
Neo.ClientError.Schema.ConstraintVerificationFailed
Neo.ClientError.Security.EncryptionRequired
Neo.ClientError.Statement.LabelNotFound
Neo.ClientNotification.Statement.CreateUniqueUnavailableWarning
Neo.ClientNotification.Statement.JoinHintUnsupportedWarning
Neo.ClientNotification.Statement.PlannerUnavailableWarning
Neo.ClientNotification.Statement.PlannerUnsupportedWarning
Neo.DatabaseError.Schema.LabelLimitReached
Neo.TransientError.Cluster.NoLeaderAvailable
Neo.TransientError.General.DatabaseUnavailable
Neo.TransientError.Network.CommunicationError
Neo.TransientError.Schema.SchemaModifiedConcurrently
Neo.TransientError.Transaction.InstanceStateChanged
Neo.TransientError.Transaction.LockSessionExpired
```

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