# DocumentDB .NET examples

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Sample solutions that perform CRUD operations and other common operations on DocumentDB resources are included in the [azure-documentdb-net](https://github.com/Azure/azure-documentdb-net/tree/master/samples/code-samples) GitHub repository. This article provides:

* Links to the tasks in each of the example C# project files.
* Links to the related API reference content.

**Prerequisites**

1. You need an Azure account to use these NoSQL examples:
   * You can [open an Azure account for free](https://azure.microsoft.com/pricing/free-trial/): You get credits you can use to try out paid Azure services, and even after they’re used up you can keep the account and use free Azure services, such as Websites. Your credit card will never be charged, unless you explicitly change your settings and ask to be charged.

* You can [activate Visual Studio subscriber benefits](https://azure.microsoft.com/pricing/member-offers/msdn-benefits-details/): Your Visual Studio subscription gives you credits every month that you can use for paid Azure services.

1. You also need the [Microsoft.Azure.DocumentDB NuGet package](http://www.nuget.org/packages/Microsoft.Azure.DocumentDB/).

[AZURE.NOTE] Each sample is self-contained, it sets itself up and cleans up after itself. As such, the samples issue multiple calls to CreateDocumentCollectionAsync(). Each time this is done your subscription is billed for 1 hour of usage per the performance tier of the collection being created.

## Database examples

The [RunDatabaseDemo](https://github.com/Azure/azure-documentdb-dotnet/blob/530c8d9cf7c99df7300246da05206c57ce654233/samples/code-samples/DatabaseManagement/Program.cs#L72-L121) method of the sample of the DatabaseManagement project shows how to perform the following tasks.

|  |  |
| --- | --- |
| Task | API reference |
| [Create a database](https://github.com/Azure/azure-documentdb-dotnet/blob/530c8d9cf7c99df7300246da05206c57ce654233/samples/code-samples/DatabaseManagement/Program.cs#L90) | [DocumentClient.CreateDatabaseAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.createdatabaseasync.aspx) |
| [Query an account for a database](https://github.com/Azure/azure-documentdb-dotnet/blob/530c8d9cf7c99df7300246da05206c57ce654233/samples/code-samples/DatabaseManagement/Program.cs#L81) | [DocumentQueryable.CreateDatabaseQuery](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.linq.documentqueryable.createdatabasequery.aspx) |
| [Read a database by Id](https://github.com/Azure/azure-documentdb-dotnet/blob/530c8d9cf7c99df7300246da05206c57ce654233/samples/code-samples/DatabaseManagement/Program.cs#L102) | [DocumentClient.ReadDatabaseAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.readdatabaseasync.aspx) |
| [List databases for an account](https://github.com/Azure/azure-documentdb-dotnet/blob/530c8d9cf7c99df7300246da05206c57ce654233/samples/code-samples/DatabaseManagement/Program.cs#L108-L113) | [DocumentClient.ReadDatabaseFeedAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.readdatabasefeedasync.aspx) |
| [Delete a database](https://github.com/Azure/azure-documentdb-dotnet/blob/530c8d9cf7c99df7300246da05206c57ce654233/samples/code-samples/DatabaseManagement/Program.cs#L118) | [DocumentClient.DeleteDatabaseAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.deletedatabaseasync.aspx) |

## Collection examples

The [RunCollectionDemo](https://github.com/Azure/azure-documentdb-dotnet/blob/530c8d9cf7c99df7300246da05206c57ce654233/samples/code-samples/CollectionManagement/Program.cs#L96-L185) method of the sample CollectionManagement project shows how to do the following tasks.

|  |  |
| --- | --- |
| Task | API reference |
| [Create a collection](https://github.com/Azure/azure-documentdb-dotnet/blob/89670bc8aefd9bdd932db7f9b6d2fcb9b6acf35e/samples/code-samples/CollectionManagement/Program.cs#L101) | [DocumentClient.CreateDocumentCollectionAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.createdocumentcollectionasync.aspx) |
| [Get performance tier of a collection](https://github.com/Azure/azure-documentdb-dotnet/blob/89670bc8aefd9bdd932db7f9b6d2fcb9b6acf35e/samples/code-samples/CollectionManagement/Program.cs#L130) | [DocumentQueryable.CreateOfferQuery](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.linq.documentqueryable.createofferquery.aspx) |
| [Change performance tier of a collection](https://github.com/Azure/azure-documentdb-dotnet/blob/89670bc8aefd9bdd932db7f9b6d2fcb9b6acf35e/samples/code-samples/CollectionManagement/Program.cs#L142-L143) | [DocumentClient.ReplaceOfferAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.replaceofferasync.aspx) |
| [Get a collection by Id](https://github.com/Azure/azure-documentdb-dotnet/blob/89670bc8aefd9bdd932db7f9b6d2fcb9b6acf35e/samples/code-samples/CollectionManagement/Program.cs#L153) | [DocumentClient.ReadDocumentCollectionAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.readdocumentcollectionasync.aspx) |
| [Read a list of all collections in a database](https://github.com/Azure/azure-documentdb-dotnet/blob/89670bc8aefd9bdd932db7f9b6d2fcb9b6acf35e/samples/code-samples/CollectionManagement/Program.cs#L162) | [DocumentClient.ReadDocumentCollectionFeedAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.readdocumentcollectionfeedasync.aspx) |
| [Delete a collection](https://github.com/Azure/azure-documentdb-dotnet/blob/89670bc8aefd9bdd932db7f9b6d2fcb9b6acf35e/samples/code-samples/CollectionManagement/Program.cs#L175) | [DocumentClient.DeleteDocumentCollectionAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.deletedocumentcollectionasync.aspx) |

## Document examples

The [RunDocumentsDemo](https://github.com/Azure/azure-documentdb-dotnet/blob/f374cc601f4cf08d11c88f0c3fa7dcefaf7ecfe8/samples/code-samples/DocumentManagement/Program.cs#L97-L102) method of the sample DocumentManagement project shows how to do the following tasks.

|  |  |
| --- | --- |
| Task | API reference |
| [Create a document](https://github.com/Azure/azure-documentdb-dotnet/blob/f374cc601f4cf08d11c88f0c3fa7dcefaf7ecfe8/samples/code-samples/DocumentManagement/Program.cs#L198) | [DocumentClient.CreateDocumentAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.createdocumentasync.aspx) |
| [Read a document by Id](https://github.com/Azure/azure-documentdb-dotnet/blob/f374cc601f4cf08d11c88f0c3fa7dcefaf7ecfe8/samples/code-samples/DocumentManagement/Program.cs#L211) | [DocumentClient.ReadDocumentAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.readdocumentasync.aspx) |
| [Read all documents in a collection](https://github.com/Azure/azure-documentdb-dotnet/blob/f374cc601f4cf08d11c88f0c3fa7dcefaf7ecfe8/samples/code-samples/DocumentManagement/Program.cs#L227) | [DocumentClient.ReadDocumentFeedAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.readdocumentfeedasync.aspx) |
| [Query for documents](https://github.com/Azure/azure-documentdb-dotnet/blob/f374cc601f4cf08d11c88f0c3fa7dcefaf7ecfe8/samples/code-samples/DocumentManagement/Program.cs#L248-L251) | [DocumentClient.CreateDocumentQuery](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.linq.documentqueryable.createdocumentquery.aspx) |
| [Replace a document](https://github.com/Azure/azure-documentdb-dotnet/blob/f374cc601f4cf08d11c88f0c3fa7dcefaf7ecfe8/samples/code-samples/DocumentManagement/Program.cs#L263) | [DocumentClient.ReplaceDocumentAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.replacedocumentasync.aspx) |
| [Upsert a document](https://github.com/Azure/azure-documentdb-dotnet/blob/f374cc601f4cf08d11c88f0c3fa7dcefaf7ecfe8/samples/code-samples/DocumentManagement/Program.cs#L300) | [DocumentClient.UpsertDocumentAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.upsertdocumentasync.aspx) |
| [Delete document](https://github.com/Azure/azure-documentdb-dotnet/blob/f374cc601f4cf08d11c88f0c3fa7dcefaf7ecfe8/samples/code-samples/DocumentManagement/Program.cs#L322) | [DocumentClient.DeleteDocumentAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.deletedocumentasync.aspx) |
| [Working with .NET dynamic objects](https://github.com/Azure/azure-documentdb-dotnet/blob/f374cc601f4cf08d11c88f0c3fa7dcefaf7ecfe8/samples/code-samples/DocumentManagement/Program.cs#L331-L380) | [DocumentClient.CreateDocumentAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.createdocumentasync.aspx)[DocumentClient.ReadDocumentAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.readdocumentasync.aspx)[DocumentClient.ReplaceDocumentAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.replacedocumentasync.aspx) |
| [Replace document with conditional ETag check](https://github.com/Azure/azure-documentdb-dotnet/blob/f2b11dec45a195ddeed333560ebba63055f5ed09/samples/code-samples/DocumentManagement/Program.cs#L398-L440) | [DocumentClient.AccessCondition](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.accesscondition.aspx)[Documents.Client.AccessConditionType](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.accessconditiontype.aspx) |
| [Read document only if document has changed](https://github.com/Azure/azure-documentdb-dotnet/blob/f2b11dec45a195ddeed333560ebba63055f5ed09/samples/code-samples/DocumentManagement/Program.cs#L442-L470) | [DocumentClient.AccessCondition](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.accesscondition.aspx)[Documents.Client.AccessConditionType](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.accessconditiontype.aspx) |

## Indexing examples

The [RunIndexDemo](https://github.com/Azure/azure-documentdb-dotnet/blob/ea8c977b9c2f37ddc2894911ec239907ab60e40a/samples/code-samples/IndexManagement/Program.cs#L89-L117) method of the sample IndexManagement project shows how to perform the following tasks.

|  |  |
| --- | --- |
| Task | API reference |
| [Exclude a document from the index](https://github.com/Azure/azure-documentdb-dotnet/blob/2e9a48b6a446b47dd6182606c8608d439b88b683/samples/code-samples/IndexManagement/Program.cs#L125-L163) | [IndexingDirective.Exclude](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.indexingdirective.aspx) |
| [Use manual (instead of automatic) indexing](https://github.com/Azure/azure-documentdb-dotnet/blob/2e9a48b6a446b47dd6182606c8608d439b88b683/samples/code-samples/IndexManagement/Program.cs#L171-L209) | [IndexingPolicy.Automatic](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.indexingpolicy.automatic.aspx) |
| [Use lazy (instead of consistent) indexing](https://github.com/Azure/azure-documentdb-dotnet/blob/2e9a48b6a446b47dd6182606c8608d439b88b683/samples/code-samples/IndexManagement/Program.cs#L221-L238) | [IndexingMode.Lazy](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.indexingpolicy.indexingmode.aspx#P:Microsoft.Azure.Documents.IndexingPolicy.IndexingMode) |
| [Exclude specified document paths from the index](https://github.com/Azure/azure-documentdb-dotnet/blob/2e9a48b6a446b47dd6182606c8608d439b88b683/samples/code-samples/IndexManagement/Program.cs#L248-L297) | [IndexingPolicy.ExcludedPaths](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.indexingpolicy.excludedpaths.aspx) |
| [Force a range scan operation on a hash indexed path](https://github.com/Azure/azure-documentdb-dotnet/blob/2e9a48b6a446b47dd6182606c8608d439b88b683/samples/code-samples/IndexManagement/Program.cs#L305-L340) | [FeedOptions.EnableScanInQuery](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.feedoptions.enablescaninquery.aspx) |
| [Use range indexes on strings](https://github.com/Azure/azure-documentdb-dotnet/blob/2e9a48b6a446b47dd6182606c8608d439b88b683/samples/code-samples/IndexManagement/Program.cs#L342-L405) | [IndexingPolicy.IncludedPaths](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.indexingpolicy.includedpaths.aspx)[RangeIndex](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.rangeindex.aspx) |
| [Perform an index transform](https://github.com/Azure/azure-documentdb-dotnet/blob/2e9a48b6a446b47dd6182606c8608d439b88b683/samples/code-samples/IndexManagement/Program.cs#L407-L464) | [ReplaceDocumentCollectionAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.replacedocumentcollectionasync.aspx) |

For more information about indexing, see [DocumentDB indexing policies](documentdb-indexing-policies.md).

## Partitioning examples

The partitioning sample file, [azure-documentdb-net/samples/code-samples/Partitioning/Program.cs](https://github.com/Azure/azure-documentdb-net/blob/master/samples/code-samples/Partitioning/Program.cs), shows how to do the following tasks. In some cases, additional helper files are used to complete the task.

|  |  |
| --- | --- |
| Task | API reference |
| [Use a HashPartitionResolver](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Partitioning/Program.cs#L144-L160) | [HashPartitionResolver](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.partitioning.hashpartitionresolver.aspx) |
| [Use a RangePartitionResolver](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Partitioning/Program.cs#L162-L186) | [Range](https://msdn.microsoft.com/library/azure/mt126048.aspx) with[RangePartitionResolver](https://msdn.microsoft.com/library/azure/mt126047.aspx) |
| [Implement custom partition resolvers](https://github.com/Azure/azure-documentdb-net/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Partitioning/Program.cs#L285) | [IPartitionResolver](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.ipartitionresolver.aspx) |
| [Implement a simple lookup table](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Partitioning/Program.cs#L115-L119) with[LookupPartitionResolver.cs](https://github.com/Azure/azure-documentdb-dotnet/blob/master/samples/code-samples/Partitioning/Partitioners/LookupPartitionResolver.cs) | [RangePartitionResolver](https://msdn.microsoft.com/library/azure/mt126047.aspx) |
| [Implement a partition resolver that creates or clones collections](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Partitioning/Program.cs#L121-L126) with [ManagedHashPartitionResolver.cs](https://github.com/Azure/azure-documentdb-dotnet/blob/master/samples/code-samples/Partitioning/Partitioners/ManagedHashPartitionResolver.cs) | [IPartitionResolver](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.ipartitionresolver.aspx) |
| [Implement a spillover scheme](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Partitioning/Program.cs#L128-L134) with[SpilloverPartitionResolver.cs](https://github.com/Azure/azure-documentdb-dotnet/blob/master/samples/code-samples/Partitioning/Partitioners/SpilloverPartitionResolver.cs) | [IPartitionResolver](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.ipartitionresolver.aspx) |
| [Saving and loading resolver configs](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Partitioning/Program.cs#L136-L137) with[RunSerializeDeserializeSample](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Partitioning/Program.cs#L295-L311) | [IPartitionResolver](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.ipartitionresolver.aspx) |
| [Add, remove, and re-balance data among partitions](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Partitioning/Program.cs#L139-L141) with [RepartitionDataSample](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Partitioning/Program.cs#L313-L345) and[DocumentClientHashPartitioningManager.cs](https://github.com/Azure/azure-documentdb-dotnet/blob/master/samples/code-samples/Partitioning/Util/DocumentClientHashPartitioningManager.cs) | [HashPartitionResolver](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.partitioning.hashpartitionresolver.aspx) |
| [Implement a partition resolver for routing during repartitioning](https://github.com/Azure/azure-documentdb-dotnet/blob/master/samples/code-samples/Partitioning/Partitioners/TransitionHashPartitionResolver.cs) | [IPartitionResolver](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.ipartitionresolver.aspx) |

For more information about partitioning and sharding, see [Partition and scale data in DocumentDB](documentdb-partition-data.md).

## Geospatial examples

The geospatial sample file, [azure-documentdb-net/samples/code-samples/Geospatial/Program.cs](https://github.com/Azure/azure-documentdb-dotnet/blob/master/samples/code-samples/Geospatial/Program.cs), shows how to do the following tasks.

Task | API reference  
—- | —  
[Enable geospatial indexing on a new collection](https://github.com/Azure/azure-documentdb-dotnet/blob/7b09c085817e850d683bc59bd864c2f6b552d275/samples/code-samples/Geospatial/Program.cs#L45-L63) | [IndexingPolicy](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.indexingpolicy.aspx)[IndexKind.Spatial](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.indexkind.aspx)[DataType.Point](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.datatype.aspx)  
[Insert documents with GeoJSON points](https://github.com/Azure/azure-documentdb-dotnet/blob/7b09c085817e850d683bc59bd864c2f6b552d275/samples/code-samples/Geospatial/Program.cs#L116-L126) | [DocumentClient.CreateDocumentAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.createdocumentasync.aspx)[DataType.Point](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.datatype.aspx)  
[Find points within a specified distance](https://github.com/Azure/azure-documentdb-dotnet/blob/7b09c085817e850d683bc59bd864c2f6b552d275/samples/code-samples/Geospatial/Program.cs#L152-L194) | [ST\_DISTANCE](documentdb-sql-query.md#built-in-functions) or[GeometryOperationExtensions.Distance](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.spatial.geometryoperationextensions.distance.aspx#M:Microsoft.Azure.Documents.Spatial.GeometryOperationExtensions.Distance(Microsoft.Azure.Documents.Spatial.Geometry,Microsoft.Azure.Documents.Spatial.Geometry)  
[Find points within a polygon](https://github.com/Azure/azure-documentdb-dotnet/blob/7b09c085817e850d683bc59bd864c2f6b552d275/samples/code-samples/Geospatial/Program.cs#L196-L221) | [ST\_WITHIN](documentdb-sql-query.md#built-in-functions) or[GeometryOperationExtensions.Within](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.spatial.geometryoperationextensions.within.aspx#M:Microsoft.Azure.Documents.Spatial.GeometryOperationExtensions.Within(Microsoft.Azure.Documents.Spatial.Geometry,Microsoft.Azure.Documents.Spatial.Geometry) and[Polygon](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.spatial.polygon.aspx)  
[Enable geospatial indexing on an existing collection](https://github.com/Azure/azure-documentdb-dotnet/blob/7b09c085817e850d683bc59bd864c2f6b552d275/samples/code-samples/Geospatial/Program.cs#L312-L336) | [DocumentClient.ReplaceDocumentCollectionAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.replacedocumentcollectionasync.aspx)[DocumentCollection.IndexingPolicy](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.documentcollection.indexingpolicy.aspx#P:Microsoft.Azure.Documents.DocumentCollection.IndexingPolicy)  
[Validate point and polygon data](https://github.com/Azure/azure-documentdb-dotnet/blob/7b09c085817e850d683bc59bd864c2f6b552d275/samples/code-samples/Geospatial/Program.cs#L223-L265) | [ST\_ISVALIDST\_ISVALIDDETAILED](documentdb-sql-query.md#built-in-functions)[GeometryOperationExtensions.IsValid](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.spatial.geometryoperationextensions.isvalid.aspx)[GeometryOperationExtensions.IsValidDetailed](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.spatial.geometryoperationextensions.isvaliddetailed.aspx)

For more information about working with Geospatial data, see [Working with Geospatial data in Azure DocumentDB](/documentation/articles/documentdb-geospatial).

## Query examples

The query document file, [azure-documentdb-net/samples/code-samples/Queries/Program.cs](https://github.com/Azure/azure-documentdb-net/blob/master/samples/code-samples/Queries/Program.cs), shows how to do each of the following tasks using the SQL query grammar, the LINQ provider with query, and with Lambda.

|  |  |
| --- | --- |
| Task | API reference |
| [Query for all documents](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Queries/Program.cs#L122-L138) | [DocumentQueryable.CreateDocumentQuery](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.linq.documentqueryable.createdocumentquery.aspx) |
| [Query for equality using ==](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Queries/Program.cs#L251-L268) | [DocumentQueryable.CreateDocumentQuery](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.linq.documentqueryable.createdocumentquery.aspx) |
| [Query for inequality using != and NOT](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Queries/Program.cs#L270-L276) | [DocumentQueryable.CreateDocumentQuery](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.linq.documentqueryable.createdocumentquery.aspx) |
| [Query using range operators like >, <, >=, <=](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Queries/Program.cs#L305-L325) | [DocumentQueryable.CreateDocumentQuery](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.linq.documentqueryable.createdocumentquery.aspx) |
| [Query using range operators against strings](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Queries/Program.cs#L337-L346) | [DocumentQueryable.CreateDocumentQuery](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.linq.documentqueryable.createdocumentquery.aspx) |
| [Query with Order by](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Queries/Program.cs#L370-L392) | [DocumentQueryable.CreateDocumentQuery](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.linq.documentqueryable.createdocumentquery.aspx) |
| [Work with subdocuments](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Queries/Program.cs#L394-L419) | [DocumentQueryable.CreateDocumentQuery](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.linq.documentqueryable.createdocumentquery.aspx) |
| [Query with intra-document Joins](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Queries/Program.cs#L421-L435) | [DocumentQueryable.CreateDocumentQuery](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.linq.documentqueryable.createdocumentquery.aspx) |
| [Query with string, math and array operators](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Queries/Program.cs#L527-L552) | [DocumentQueryable.CreateDocumentQuery](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.linq.documentqueryable.createdocumentquery.aspx) |
| [Query with parameterized SQL using SqlQuerySpec](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Queries/Program.cs#L140-L174) | [DocumentQueryable.CreateDocumentQuery](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.linq.documentqueryable.createdocumentquery.aspx)[SqlQuerySpec](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.sqlqueryspec.aspx) |
| [Query with explict paging](https://github.com/Azure/azure-documentdb-dotnet/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/Queries/Program.cs#L554-L576) | [DocumentQueryable.CreateDocumentQuery](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.linq.documentqueryable.createdocumentquery.aspx) |

For more information about writing queries, see [SQL query within DocumentDB](/documentation/articles/documentdb-sql-query).

## Server-side programming examples

The server-side programming file, [azure-documentdb-net/samples/code-samples/ServerSideScripts/Program.cs](https://github.com/Azure/azure-documentdb-net/blob/master/samples/code-samples/ServerSideScripts/Program.cs), shows how to do the following tasks.

|  |  |
| --- | --- |
| Task | API reference |
| [Create a stored procedure](https://github.com/Azure/azure-documentdb-net/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/ServerSideScripts/Program.cs#L112) | [DocumentClient.CreateStoredProcedureAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.createstoredprocedureasync.aspx) |
| [Execute a stored procedure](https://github.com/Azure/azure-documentdb-net/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/ServerSideScripts/Program.cs#L127) | [DocumentClient.ExecuteStoredProcedureAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.executestoredprocedureasync.aspx) |
| [Read a document feed for a stored procedure](https://github.com/Azure/azure-documentdb-net/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/ServerSideScripts/Program.cs#L194) | [DocumentClient.ReadDocumentFeedAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.readdocumentfeedasync.aspx) |
| [Create a stored procedure with Order by](https://github.com/Azure/azure-documentdb-net/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/ServerSideScripts/Program.cs#L219) | [DocumentClient.CreateStoredProcedureAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.createstoredprocedureasync.aspx) |
| [Create a pre-trigger](https://github.com/Azure/azure-documentdb-net/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/ServerSideScripts/Program.cs#L264) | [DocumentClient.CreateTriggerAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.createtriggerasync.aspx) |
| [Create a post-trigger](https://github.com/Azure/azure-documentdb-net/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/ServerSideScripts/Program.cs#L329) | [DocumentClient.CreateTriggerAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.createtriggerasync.aspx) |
| [Create a User Defined Function (UDF)](https://github.com/Azure/azure-documentdb-net/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/ServerSideScripts/Program.cs#L389) | [DocumentClient.CreateUserDefinedFunctionAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.createuserdefinedfunctionasync.aspx) |

For more information about server-side programming, see [DocumentDB server-side programming: Stored procedures, database triggers, and UDFs](/documentation/articles/documentdb-programming).

## User management examples

The user management file, [azure-documentdb-net/samples/code-samples/UserManagement/Program.cs](https://github.com/Azure/azure-documentdb-net/blob/master/samples/code-samples/UserManagement/Program.cs), shows how to do the following tasks.

|  |  |
| --- | --- |
| Task | API reference |
| [Create a user](https://github.com/Azure/azure-documentdb-net/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/UserManagement/Program.cs#L81) | [DocumentClient.CreateUserAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.createuserasync.aspx) |
| [Set permissions on a collection or document](https://github.com/Azure/azure-documentdb-net/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/UserManagement/Program.cs#L85) | [DocumentClient.CreatePermissionAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.createpermissionasync.aspx) |
| [Get a list of a user’s permissions](https://github.com/Azure/azure-documentdb-net/blob/d17c0ca5be739a359d105cf4112443f65ca2cb72/samples/code-samples/UserManagement/Program.cs#L218) | [DocumentClient.ReadUserAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.readuserasync.aspx)[DocumentClient.ReadPermissionFeedAsync](https://msdn.microsoft.com/library/azure/microsoft.azure.documents.client.documentclient.readpermissionfeedasync.aspx) |