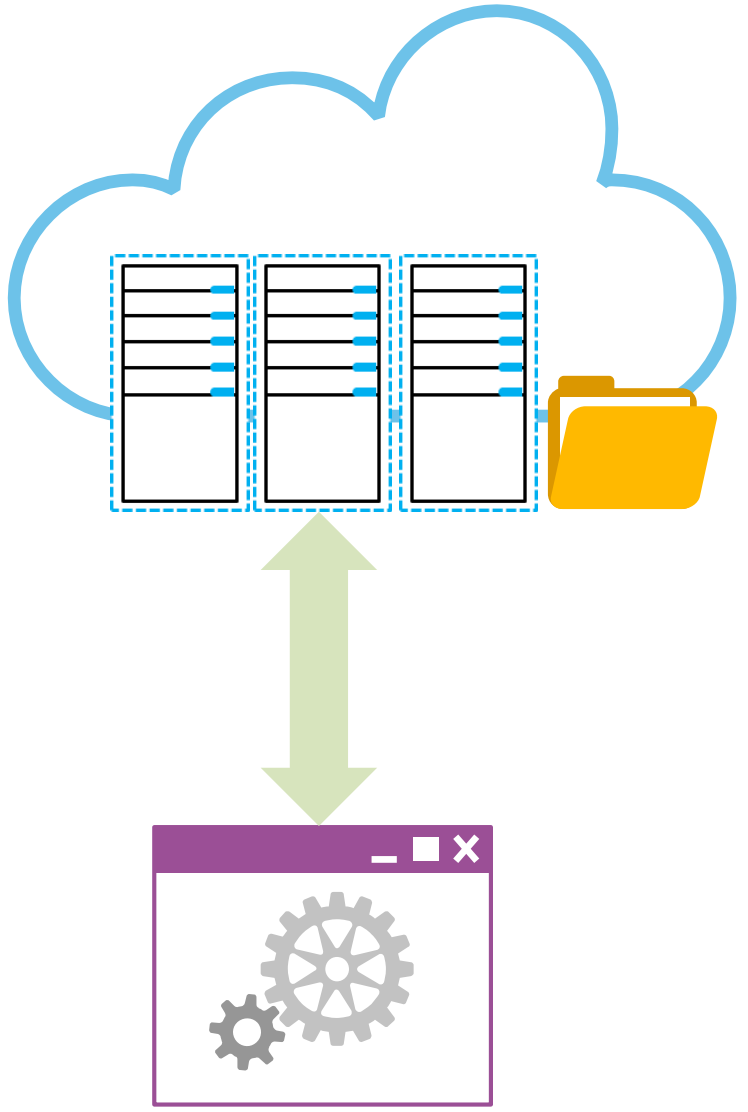
Building HDInsight Solutions with .NET

Microsoft

What can I do with .NET and HDinsight?

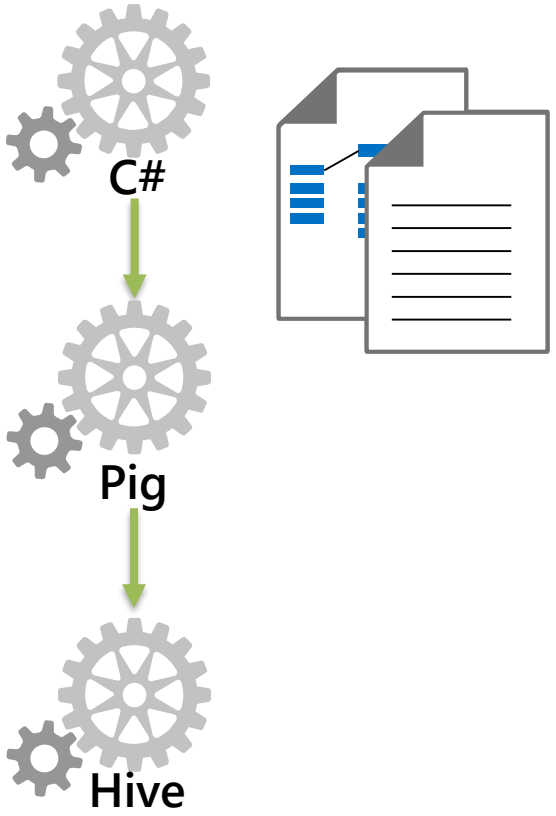
- Serialize source data using Avro
- Upload files to Azure storage
- Invoke Hadoop jobs

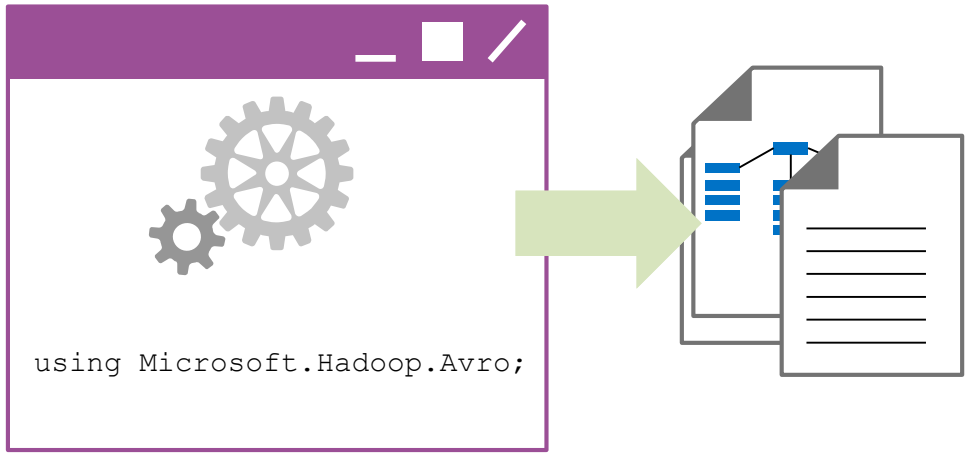


What is Avro?

Apache Avro is a splittable serialization and data interchange format

- Based on JSON - language-agnostic
- Serializes schema and data
- Supports compression

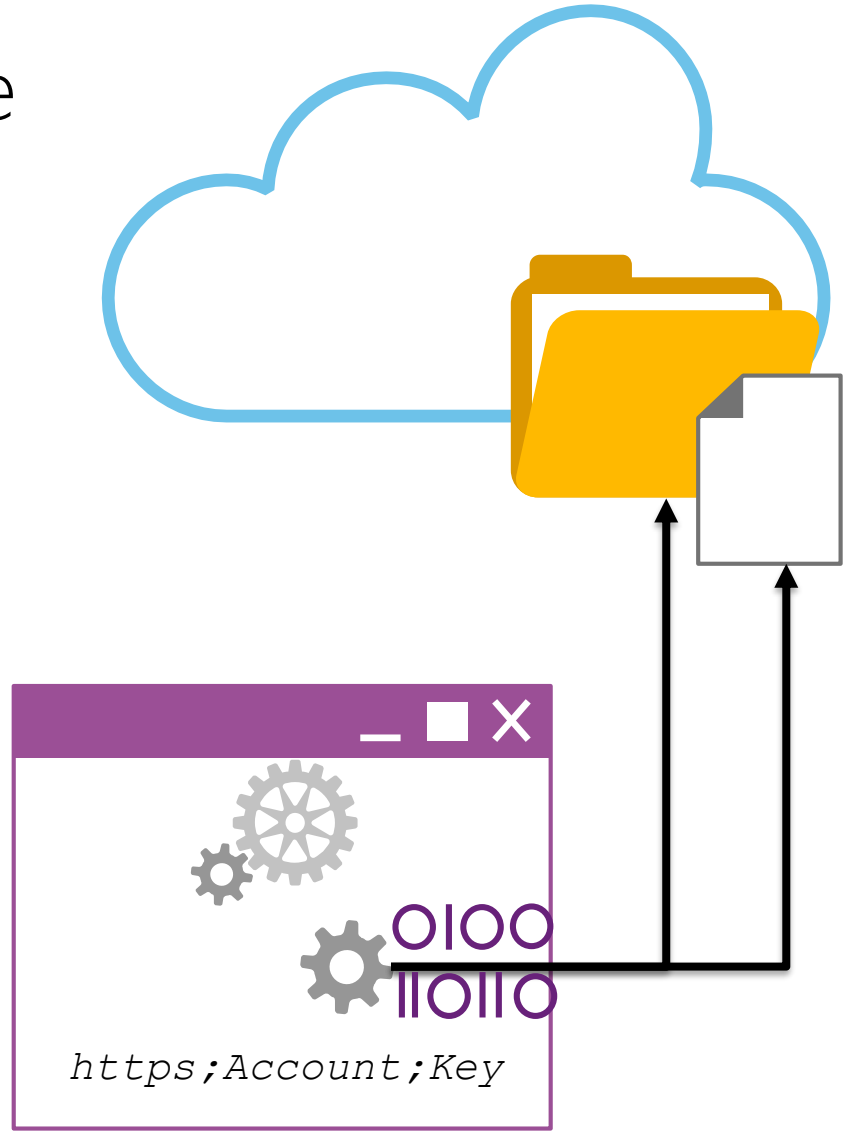




1. Import the **Microsoft Azure HDInsight Avro NuGet Package**
2. Use Avro classes to serialize a stream
   - Use **AvroSerializer** to serialize data-only
     - Use reflection to serialize .NET objects as data-only
     - Serialize other data in a generic JSON record schema
   - Use **AvroContainer** to serialize schema and data
     - Use reflection to serialize .NET objects and schema
     - Serialize other data with a generic JSON record schema

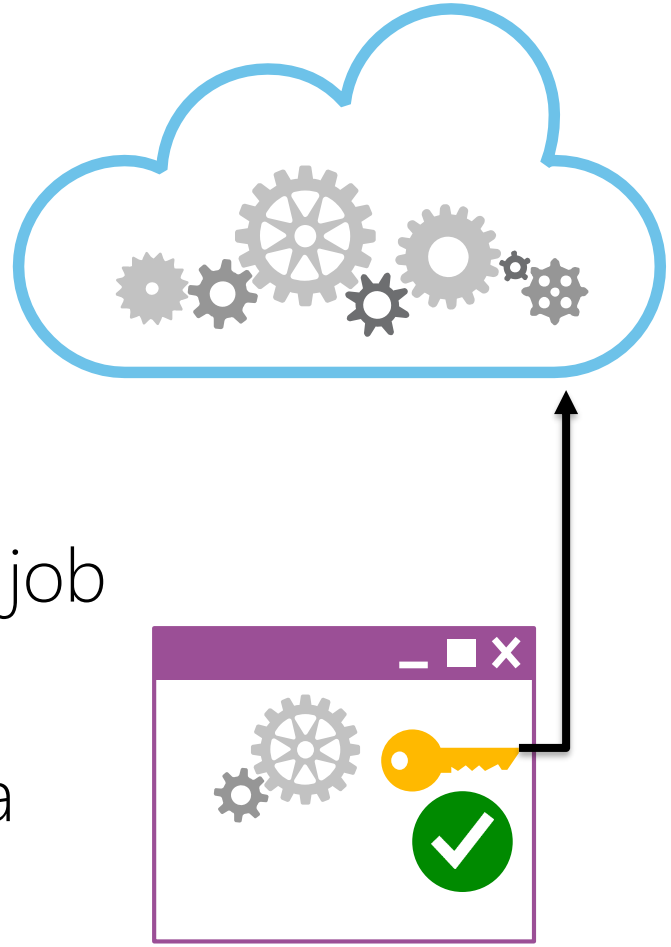
How do I write code that uses Azure storage?

1. Import Azure Storage NuGet package
2. Create a connection string for your storage account
3. Create a **CloudBlobClient** object
4. Create a **CloudBlobContainer** object that references your container
5. Create a **CloudBlockBlob** object that references a blob
6. Read or write a stream to/from the blob



How do I submit Hadoop jobs?

1. Import HDInsight Management NuGet package
   - Includes Hadoop Client
2. Create a ***Credential** object for your cluster
   - Certificate
   - Basic Authentication
3. Create a ***JobCreateParameters** object to define the job
   - MapReduce, Streaming, Pig, Hive, etc.
4. Use the **JobSubmissionClientFactory** class to create a client from your credentials
5. Use the client to create the job based on your parameters
6. Use the client to get the job ID and check status until complete



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