```
447  static void Main()
448         {
449             Application.EnableVisualStyles();
450             Application.DoEvents();
451             Application.Run(new MainForm());
452         }
453 
454         private void startButton_Click(object sender, System.EventArgs e)
455         {
456             if (runningTask == null)
457             {
458                 try
459                 {
460                     stopButton.Enabled = true;
461                     startButton.Enabled = false;
462 
463                     // Create a new task
464                     myTask = new Task();
465 
466                     // Create a virtual channel
467                     myTask.AIChannels.CreateVoltageChannel(physicalChannelComboBox.Text, "",
468                         (AITerminalConfiguration)(-1), Convert.ToDouble(minimumValueNumeric.Value),
469                         Convert.ToDouble(maximumValueNumeric.Value), AIVoltageUnits.Volts);
470 
471                     // Configure the timing parameters
472                     myTask.Timing.ConfigureSampleClock("", Convert.ToDouble(rateNumeric.Value),
473                         SampleClockActiveEdge.Rising, SampleQuantityMode.ContinuousSamples, 1000);
474 
475                     // Verify the Task
476                     myTask.Control(TaskAction.Verify);
477 
478                     // Prepare the table for Data
479                     InitializeDataTable(myTask.AIChannels, ref dataTable);
480                     acquisitionDataGrid.DataSource = dataTable;
481 
482                     runningTask = myTask;
483                     analogInReader = new AnalogMultiChannelReader(myTask.Stream);
484                     analogCallback = new AsyncCallback(AnalogInCallback);
485 
486                     // Use SynchronizeCallbacks to specify that the object
487                     // marshals callbacks across threads appropriately.
488                     analogInReader.SynchronizeCallbacks = true;
489                     analogInReader.BeginReadWaveform(Convert.ToInt32(samplesPerChannelNumeric.Value),
490                         analogCallback, myTask);
491                 }
492                 catch (DaqException exception)
493                 {
494                     // Display Errors
495                     MessageBox.Show(exception.Message);
496                     runningTask = null;
497                     myTask.Dispose();
498                     stopButton.Enabled = false;
499                     startButton.Enabled = true;
500                 }
501             }
502         }
503 
504         private void AnalogInCallback(IAsyncResult ar)
505         {
506             try
507             {
508                 if (runningTask != null && runningTask == ar.AsyncState)
509                 {
510                     // Read the available data from the channels
511                     data = analogInReader.EndReadWaveform(ar);
512 
513                     // Plot your data here
514                     dataToDataTable(data, ref dataTable);
515 
516                     analogInReader.BeginMemoryOptimizedReadWaveform(Convert.ToInt32 ↙
    (samplesPerChannelNumeric.Value),
517                         analogCallback, myTask, data);
518                 }
519             }
```

```
520             catch (DaqException exception)
521             {
522                 // Display Errors
523                 MessageBox.Show(exception.Message);
524                 runningTask = null;
525                 myTask.Dispose();
526                 stopButton.Enabled = false;
527                 startButton.Enabled = true;
528             }
529         }
530 
531         private void stopButton_Click(object sender, System.EventArgs e)
532         {
533             if (runningTask != null)
534             {
535                 // Dispose of the task
536                 runningTask = null;
537                 myTask.Dispose();
538                 stopButton.Enabled = false;
539                 startButton.Enabled = true;
540             }
541         }
542 
543         private void dataToDataTable(AnalogWaveform<double>[] sourceArray, ref DataTable dataTable)
544         {
545             // Iterate over channels
546             int currentLineIndex = 0;
547             foreach (AnalogWaveform<double> waveform in sourceArray)
548             {
549                 for (int sample = 0; sample < waveform.Samples.Count; ++sample)
550                 {
551                     if (sample == 10)
552                         break;
553 
554                     dataTable.Rows[sample][currentLineIndex] = waveform.Samples[sample].Value;
555                 }
556                 currentLineIndex++;
557             }
558         }
559 
560         public void InitializeDataTable(AIChannelCollection channelCollection, ref DataTable data)
561         {
562             int numOfChannels = channelCollection.Count;
563             data.Rows.Clear();
564             data.Columns.Clear();
565             dataColumn = new DataColumn[numOfChannels];
566             int numOfRows = 10;
567 
568             for (int currentChannelIndex = 0; currentChannelIndex < numOfChannels; currentChannelIndex+ ↙
    +)
569             {
570                 dataColumn[currentChannelIndex] = new DataColumn();
571                 dataColumn[currentChannelIndex].DataType = typeof(double);
572                 dataColumn[currentChannelIndex].ColumnName = channelCollection[currentChannelIndex]. ↙
    PhysicalName;
573             }
574 
575             data.Columns.AddRange(dataColumn);
576 
577             for (int currentDataIndex = 0; currentDataIndex < numOfRows; currentDataIndex++)
578             {
579                 object[] rowArr = new object[numOfChannels];
580                 data.Rows.Add(rowArr);
581             }
582         }
```

```
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Text;
5  using System.Threading.Tasks;
6  using System.Data;
7  using System.Data.SqlClient;
8
9  namespace Data
10 {
11     public class DatabaseAdgang
12     {
13         private SqlConnection conn;
14         private const String DB = "F15ST2ITS2201404492";
15         private DateTime Datostempel;
16         private int GemtId = 0;
17         public DatabaseAdgang()
18         {
19             conn = new SqlConnection("Data Source=webhotel10.iha.dk;Initial Catalog=" + DB + ";Persist
       Security Info=True;User ID=" + DB + ";Password=" + DB + "");
20         }
21             public int gemData(string Forsøgsnavn, List<double> Rådata)
22         {
23             Datostempel = DateTime.Now;
24             double[] BLOBListe = Rådata.ToArray();
25             byte[] BYTEliste = Rådata.SelectMany(value => BitConverter.GetBytes(value)).ToArray();
26
27             String query = "INSERT INTO SEMPRJ3 (Forsøgsnavn, Datostempel, Blodtryksmåling) " +
28                 "Output Inserted.Id " +
29                 "VALUES(@Forsøgsnavn, @Dato, @MåleListe) ";
30             conn.Open();
31
32             SqlCommand command = new SqlCommand(query, conn);
33             command.Parameters.AddWithValue("@Forsøgsnavn", Forsøgsnavn);
34             command.Parameters.Add("@Dato", SqlDbType.DateTime).Value = Datostempel;
35             command.Parameters.Add("@MåleListe", SqlDbType.Image).Value = BYTEliste;
36             GemtId = Convert.ToInt32(command.ExecuteScalar());
37
38             conn.Close();
39             return GemtId;
40         }
41     }
42 }
```

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>
    <startup>
        <supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.5" />
    </startup>
  <appSettings>
    <add key="KalibreringsKoefficient" value="50"/>
  </appSettings>
</configuration>
```