



DEVELOPER SUMMIT

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Geometry and Data API

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Editing Namespace

- **EditingModule** provides access to the templates and the sketch geometry.
- **EditEvents** capture creates, modifies, and deletes.
- **Houses FeatureInspector.**

Edit operations

- All data manipulations should be executed as part of an edit operation.
- An edit operation can encapsulate multiple and various edits.

```
// create an edit operation
var editOperation = EditingModule.CreateEditOperation();
editOperation.Name = "My first edit";

// queue the edit
editOperation.Create(CurrentTemplate, geometry);

//execute the operation
return editOperation.ExecuteAsync();
```

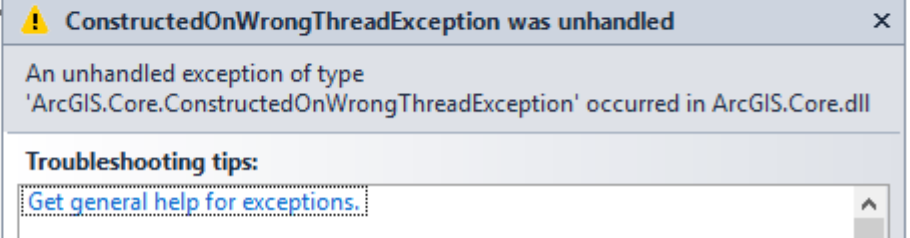
Reminder

- Recall the previous lecture on how to get code execution to the CIM thread
- Geometry and Data API are considered fine-grained APIs
- Can only be executed on the CIM thread

`QueuingTaskFactory.StartNew(...)`

Or

```
protected override void OnClick()  
{  
    MapPoint newPoint = new MapPoint();  
}
```



ArcGIS.Core.Data API

- Provides access to the Geodatabase model incl. datasets, feature classes, schema definitions, relationship class and versioning information.
- Schema information is stored in definitions.

```
string fileGDBLocation = @"c:\data\devsummit2015.gdb";

// open the file geodatabase from provided location
var fileGeodatabase = new Geodatabase(fileGDBLocation);

// open the dataset of type feature class by name
var featureClass = fileGeodatabase.OpenDataset<FeatureClass>("SimpleLines");

// get the schema information
var classDefinition = featureClass.Definition;
```

ArcGIS.Core.Data API (continued)

- **Table** is the source object, containing a collection of rows that contain the data values.
- **Data content is retrieved by constructing a search cursor.**

```
// search the feature class by creating a row cursor
var rowCursor = featureClass.Search(queryFilter, false);

// loop through the returned rows
while (rowCursor.MoveNext())
{
    // retrieve the current row from the cursor
    var row = rowCursor.Current;

    // do something with the content of the row
    long oid = (long)row[classDefinition.ObjectIDField];
}
```


ArcGIS.Core.Geometry API

- **Similar to ArcGIS Runtime API**
- **Contains key classes and enumerations defining geometry types such as MapPoint, Envelope, Polyline, Polygon, and SpatialReference.**
- **Containers that house collections of the geometries as CoordinateCollection, PartCollection and SegmentCollection.**

ArcGIS.Core.Geometry API (continued)

- **GeometryEngine static methods can perform numerous geometry manipulations such as buffer, cut, clip, offset, union, etc.**

```
var palmSprings = new MapPoint(-116.545, 33.83, new SpatialReference(4326));  
var aroundConventionCenter = GeometryEngine.Buffer(palmSprings, 0.035);
```