Migrating Data to the Parcel Fabric

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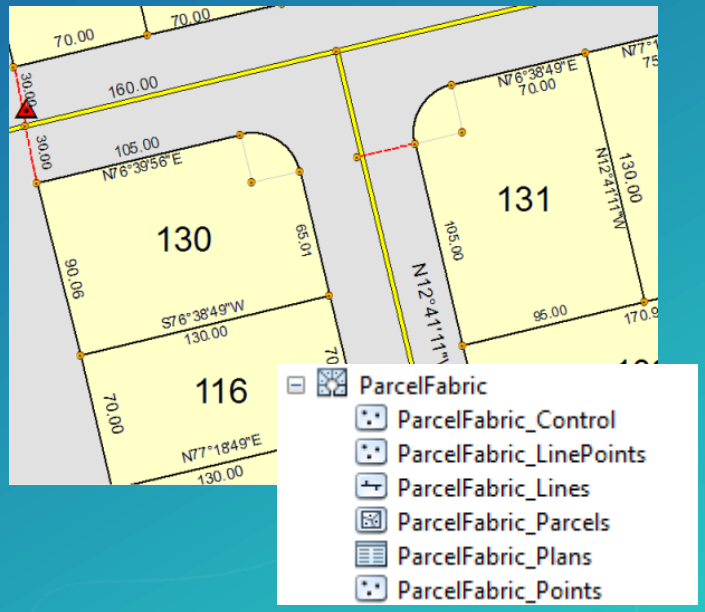
What is a parcel fabric?

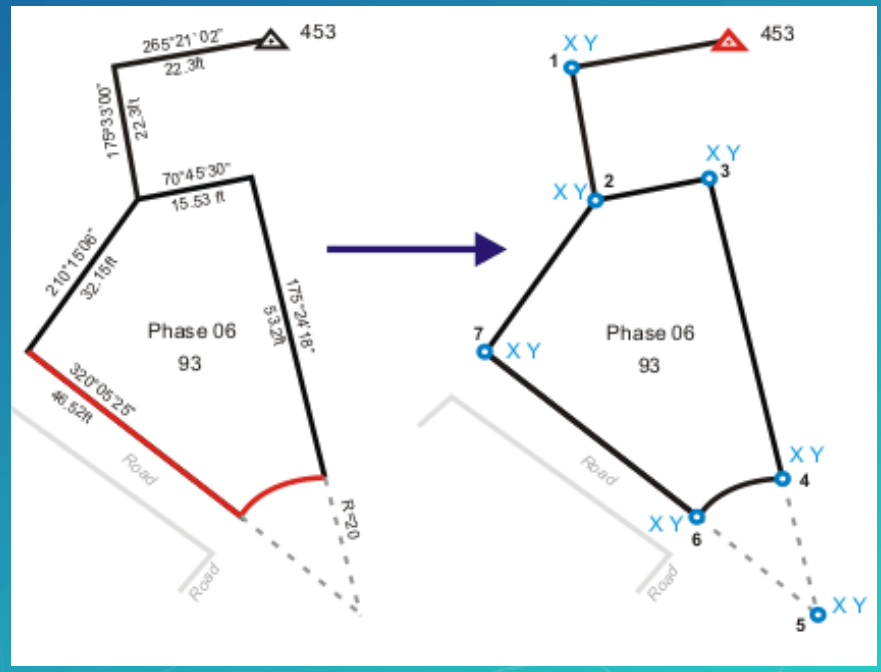
- Dataset of related feature classes and tables
  - Polygons, lines, points, plans, etc.
  - Predefined system attributes
- Connected parcel groups
  - Forms a parcel boundary network
- Explicit topology
  - Defined by common parcel corner points
- Parcel Editor toolbar



Parcel fabric data model

Parcel fabric data model

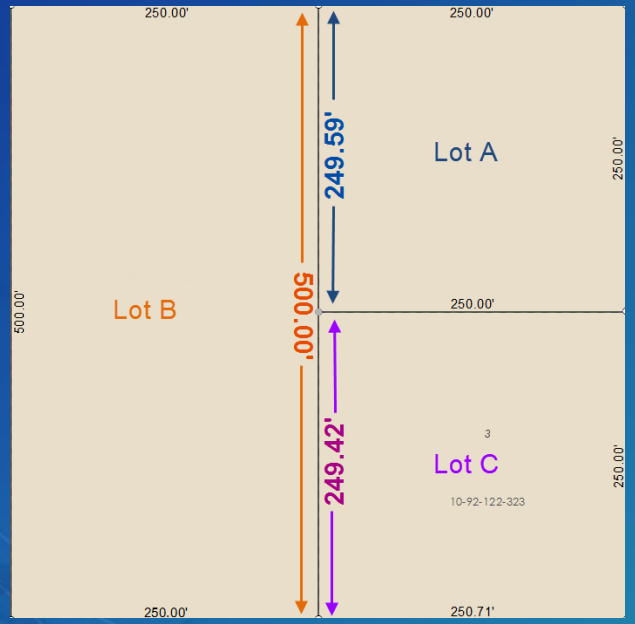
- **Plans**
  - Represent the legal document
  - Store record information
- **Parcels**
  - Polygon defined by a sequence of lines (traverse)
- **Lines**
  - Store the recorded dimensions
  - Have a To and a From point
- **Points**
  - Have X Y Z coordinates
  - Can have a control point

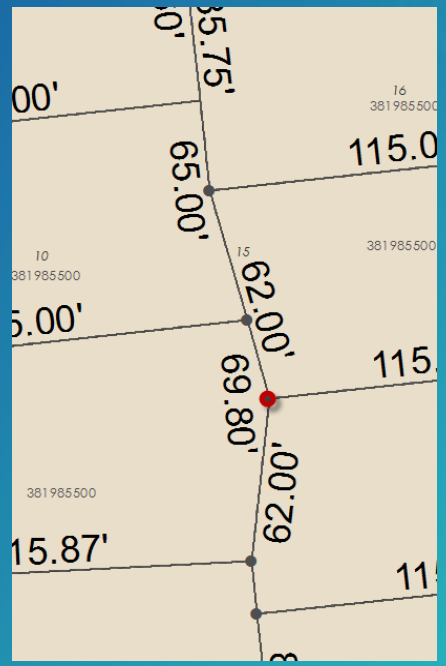


Line points

Parcel fabric data model

- Ensure topology between parcels
- Preserve recorded dimensions

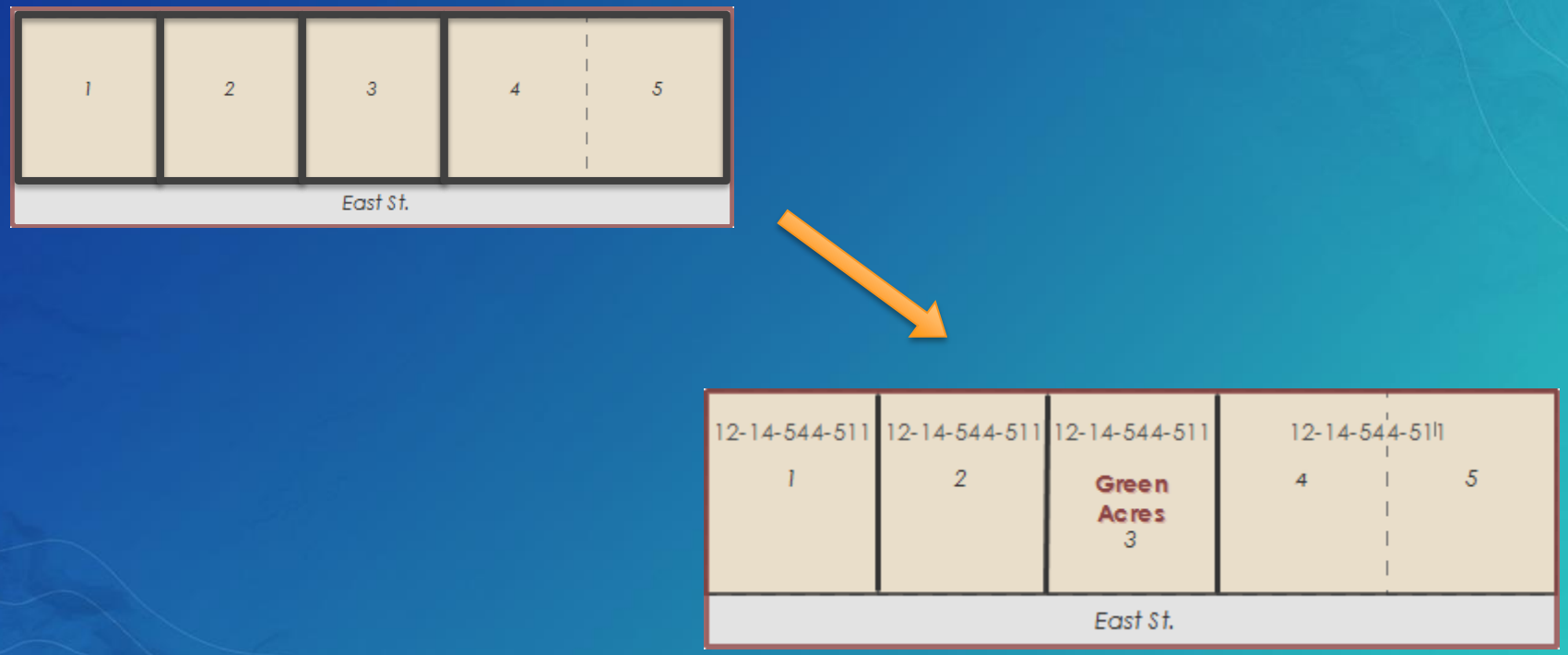




Overlapping parcels

Parcel fabric data model

- Subdivisions, Lots, Tax Parcels, Historic parcels share common points



Demo

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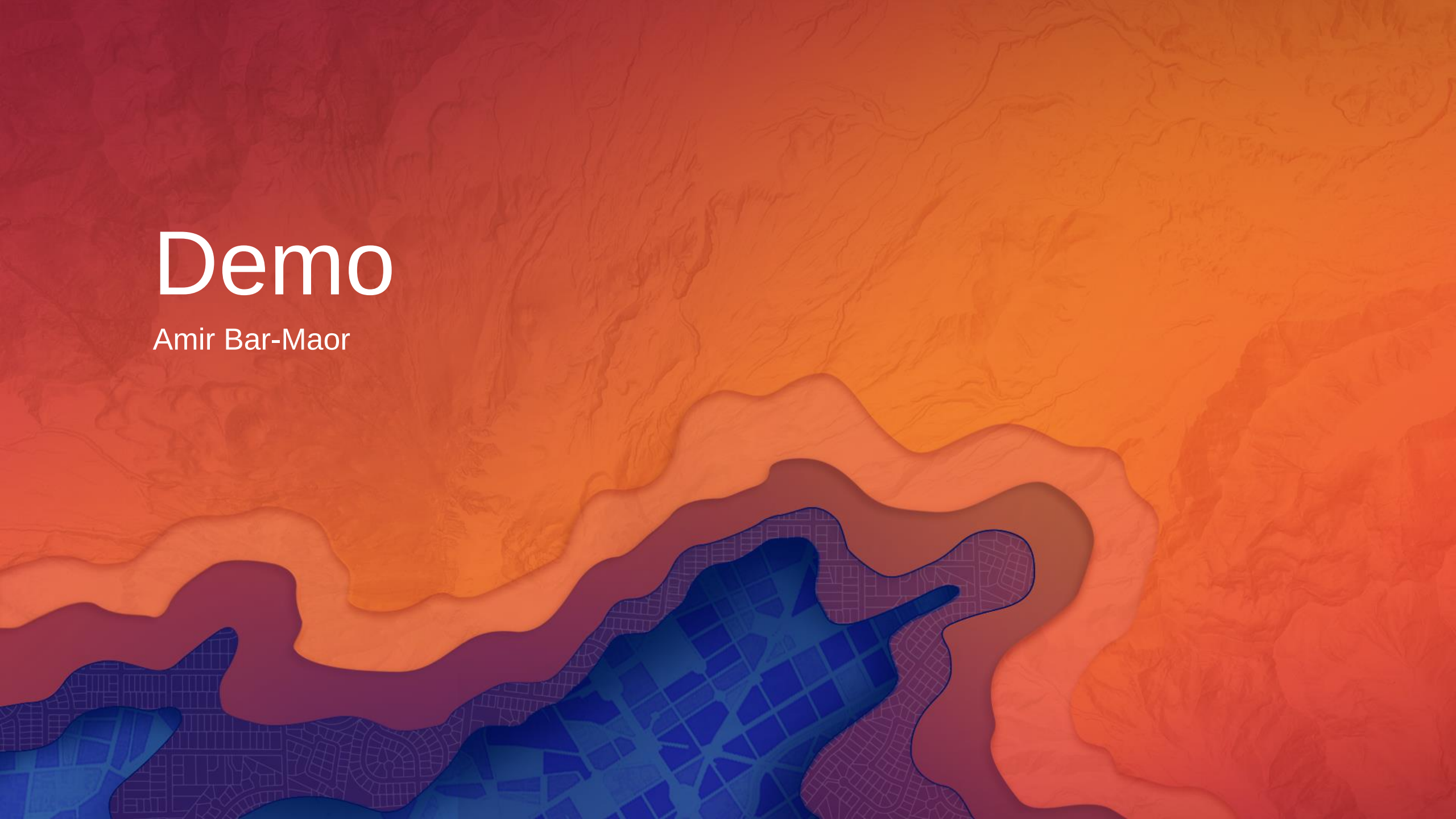
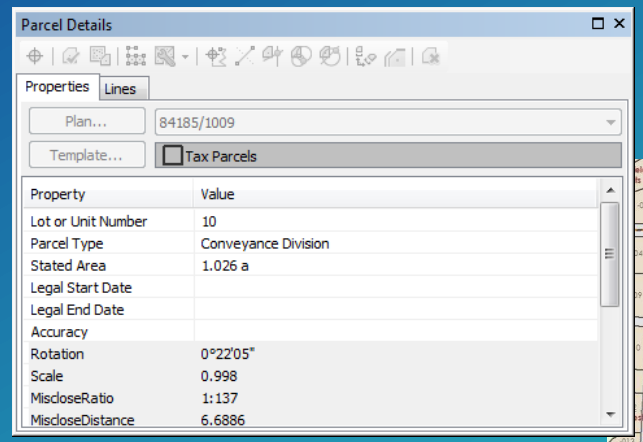
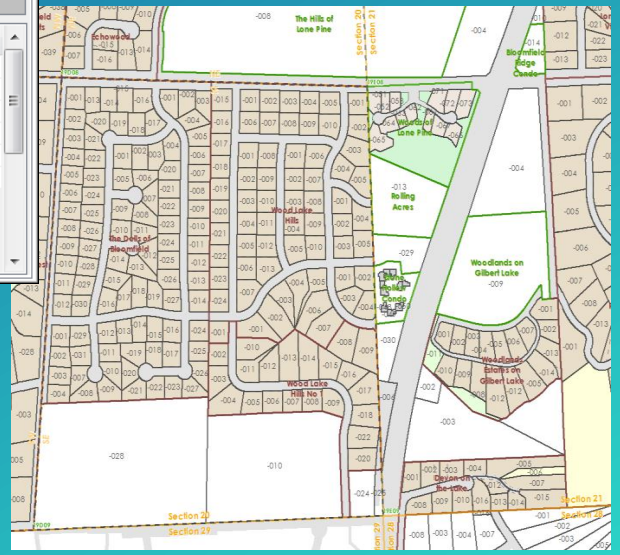


Parcel fabric data model

- Data model can be optimized for your organization
- In the USA, the Local Government Information Model is used





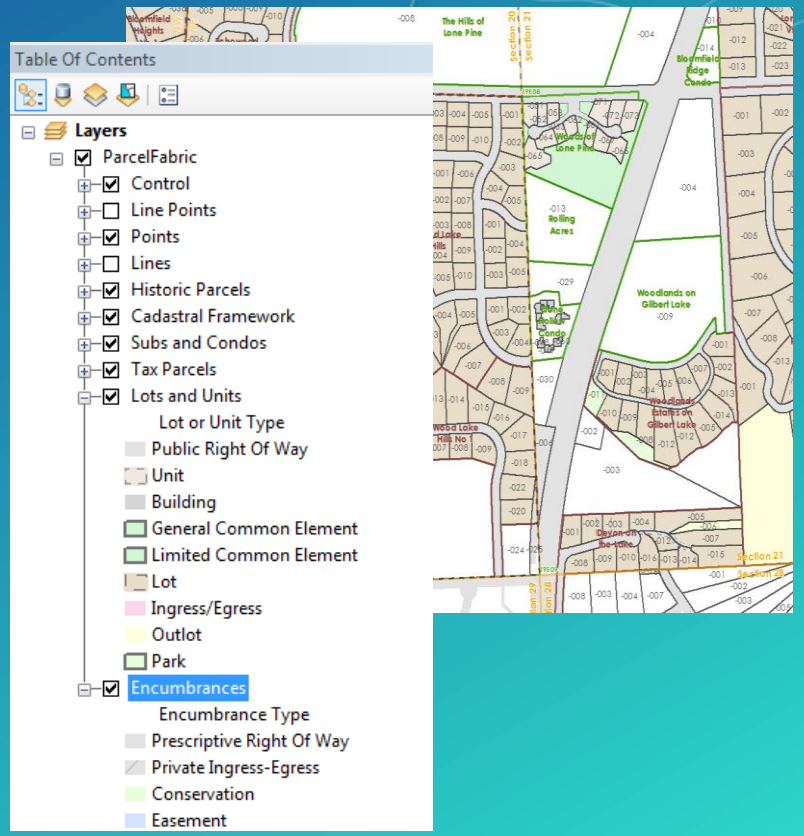
Local Government Information Model (LGIM)

- A collection of maps and apps used to manage land records in the USA:
  - Tax parcel editing
  - Survey framework maintenance
  - Tax map book production

- Related apps such as Community Parcels, Tax parcel viewer, Address Management

Parcel fabric and the LGIM

- Parcel fabric can be enabled with the LGIM
  - Optimized for parcel editing in the USA
- Provides a configured layer for streamlined editing
- Provides automated parcel editing workflows

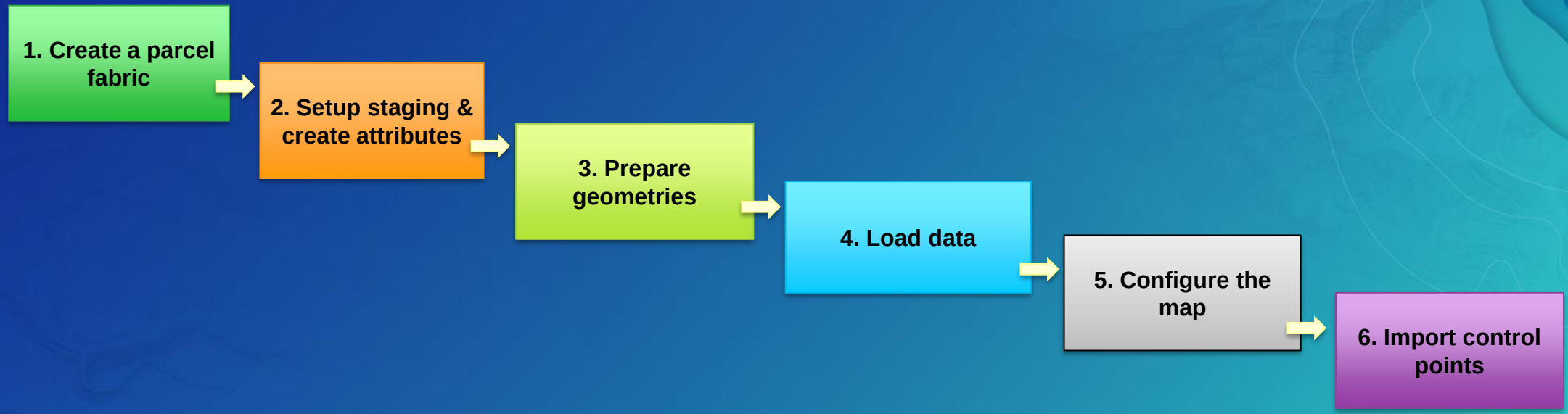


Migrating data to the Parcel Fabric

- Setup the data model
  - Extend your parcel fabric model
  - Or use the Local Government Information Model
- Setup a staging environment
- Format and prepare data
- Use the Load a Topology to a Parcel Fabric geoprocessing tool
- Import control points

Steps

Migrating data to the parcel fabric

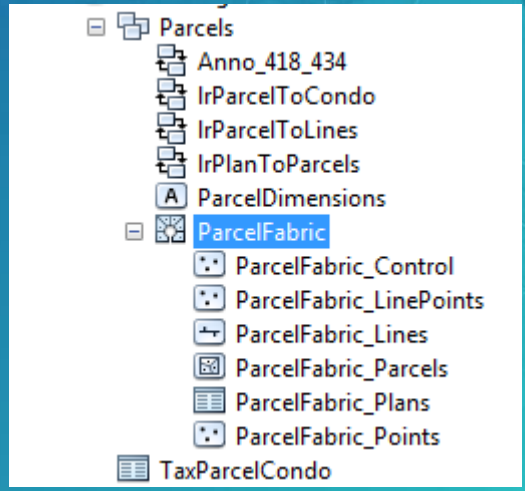


- **Recommendation: Test the workflow against a small pilot area of parcels**

Step 1: Create a parcel fabric

Data migration steps

- Create a parcel fabric in a feature dataset
  - Projected or geographic
- Extend the data model
  - Add your own attributes, tables
  - Or enable the Local Government Information Model (USA)



Demo : Step 1

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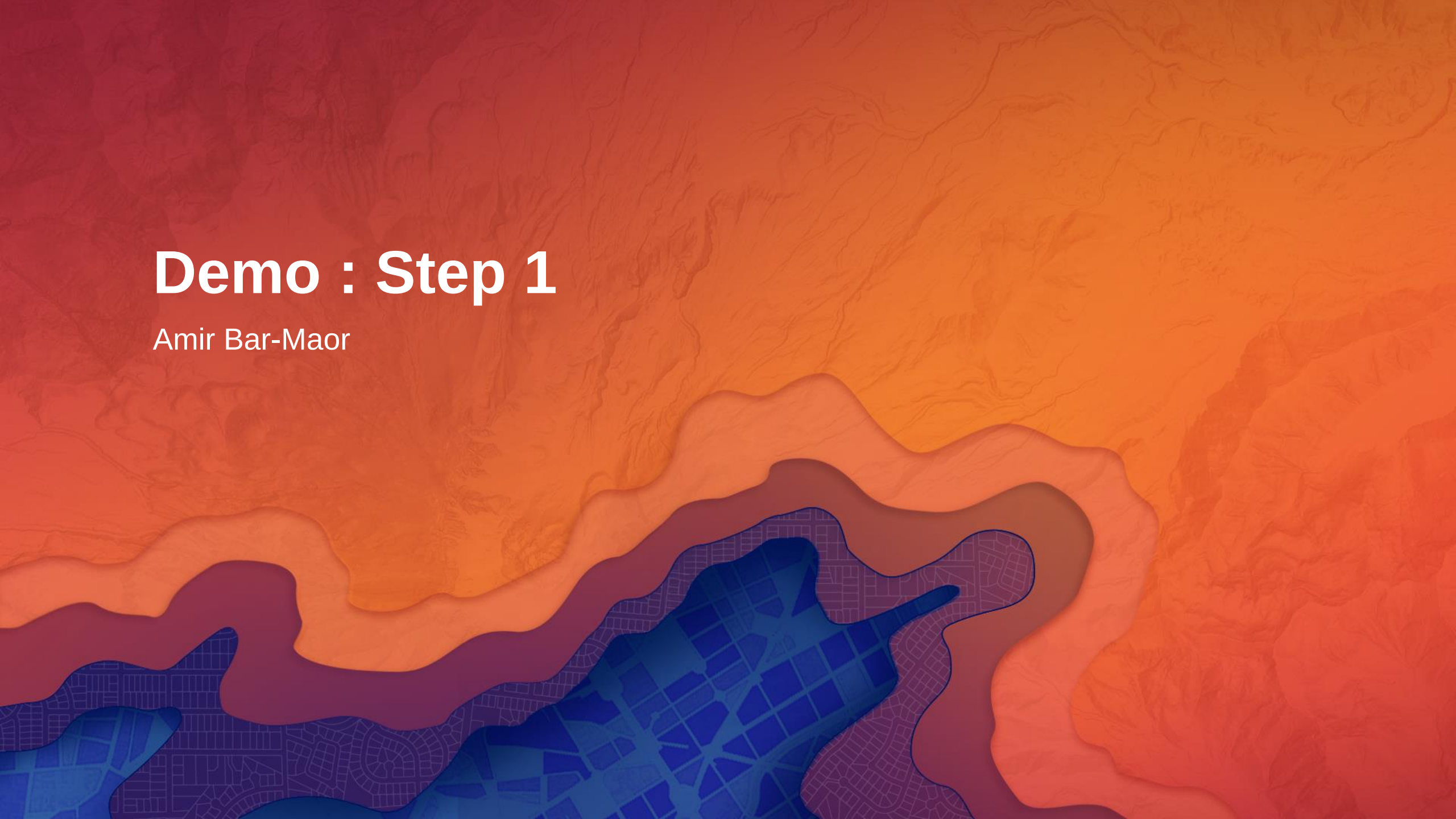
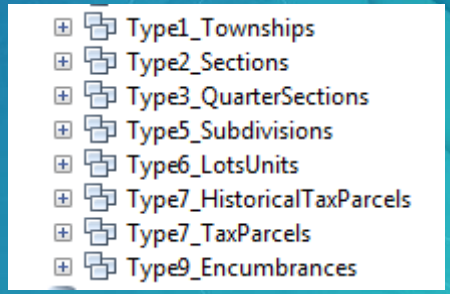


Step 2: Setup staging & create attributes

Data migration steps

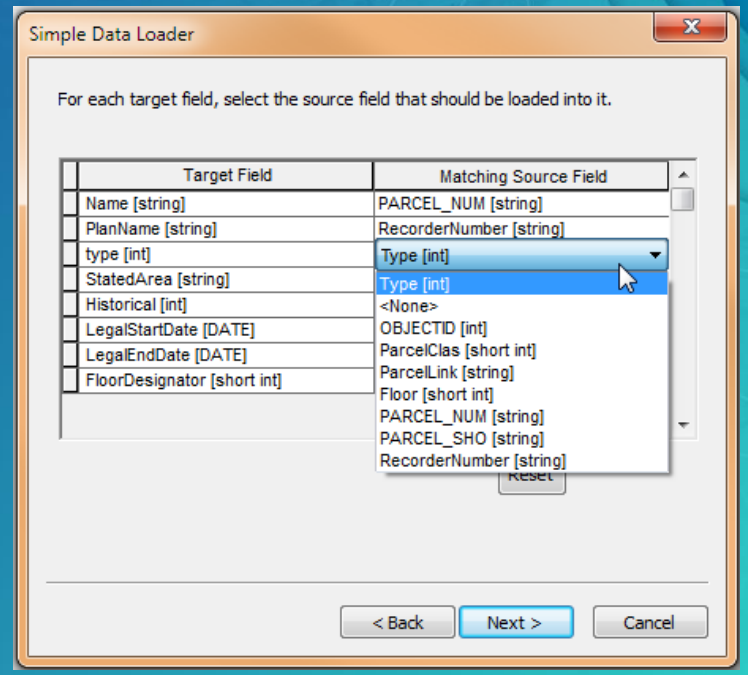
- Review source data
  - Inventory of polygons
- Create an empty polygon feature class for each parcel type
  - In a separate feature dataset
- Add attribute fields
  - Fields must match fields in parcel fabric tables (both system and additional)
- Calculate/format attributes in source polygons
  - Prepare source attributes for loading into staging feature classes
  - For example, Types, Historic parcels
- Check alignments between overlapping polygon types
  - Use the Integrate geoprocessing tool



Step 2 continued… Staging

Data migration steps

- Load source polygons into staging feature classes
  - Use the Simple Data Loader
- If using the LGIM
  - Staging feature classes are setup for you
  - Download and unpack the staging layer package
  - Use the Simple Data Loader



Demo : Step 2

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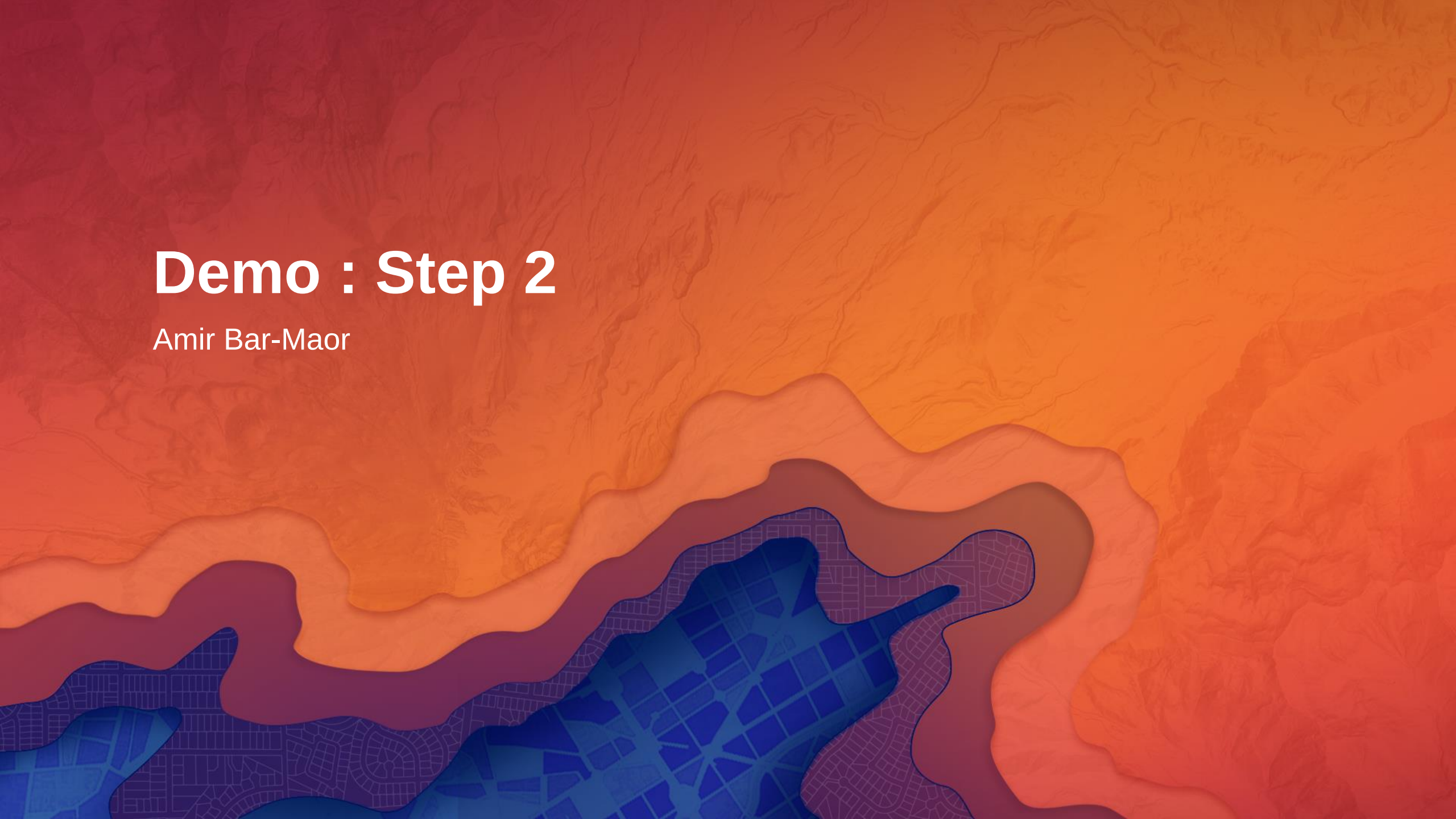
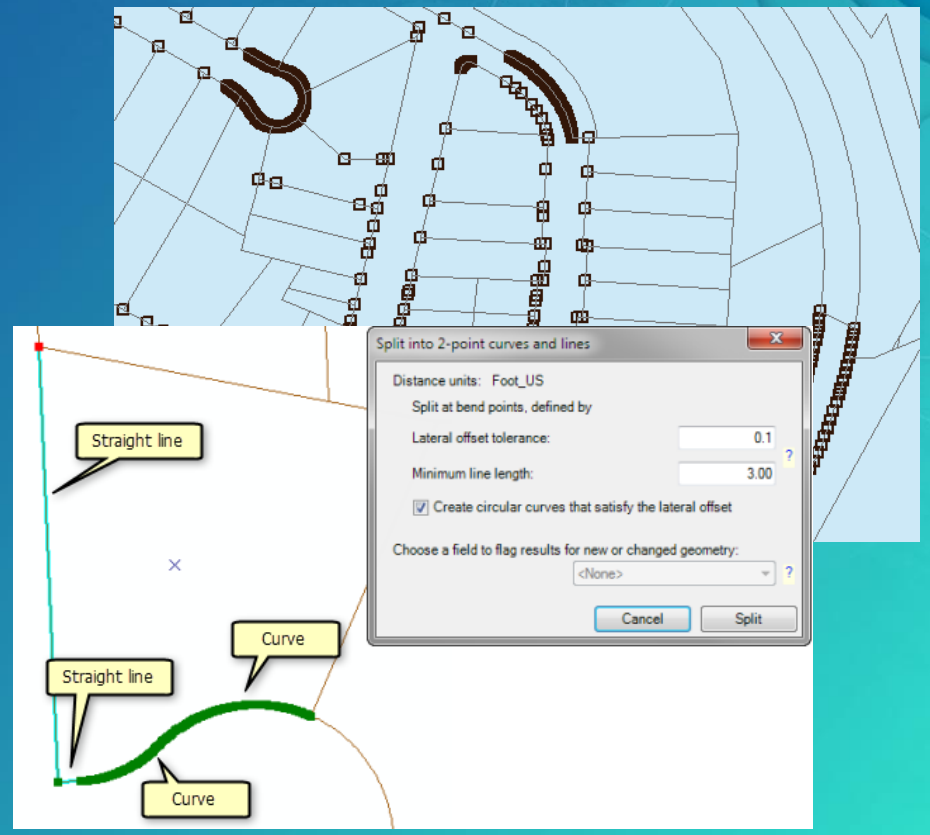


Step 3: Prepare geometries

Data migration steps

- For each parcel type:
  1. Check and repair any polygon geometries (GP Tool)
  2. Convert polygons to lines (GP Tool)
  3. Clean up curves (Curves and Lines Add-in)
  4. Rebuild polygons from lines (GP Tool)
  5. Check polygon inventories



Demo : Step 3

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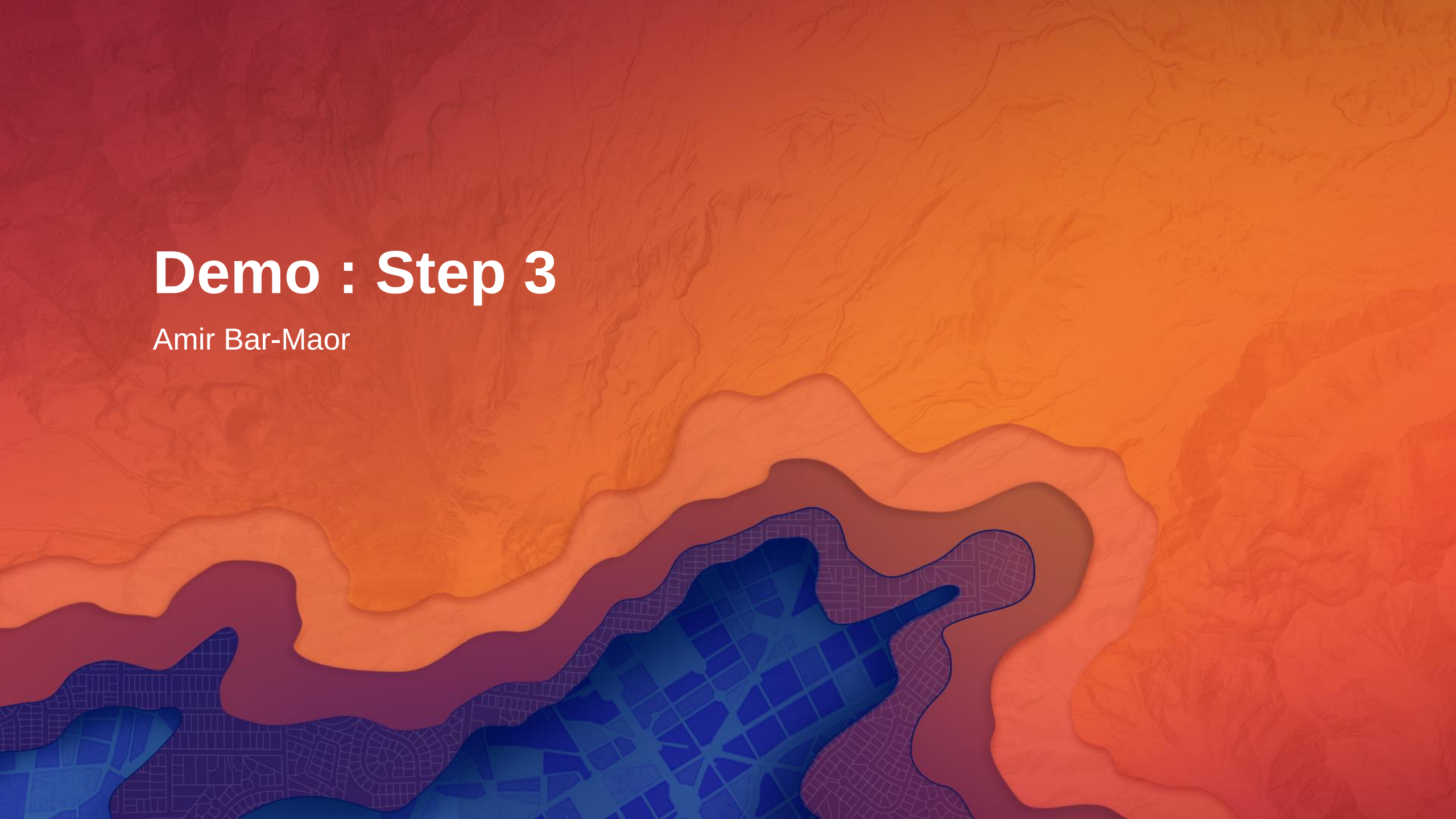
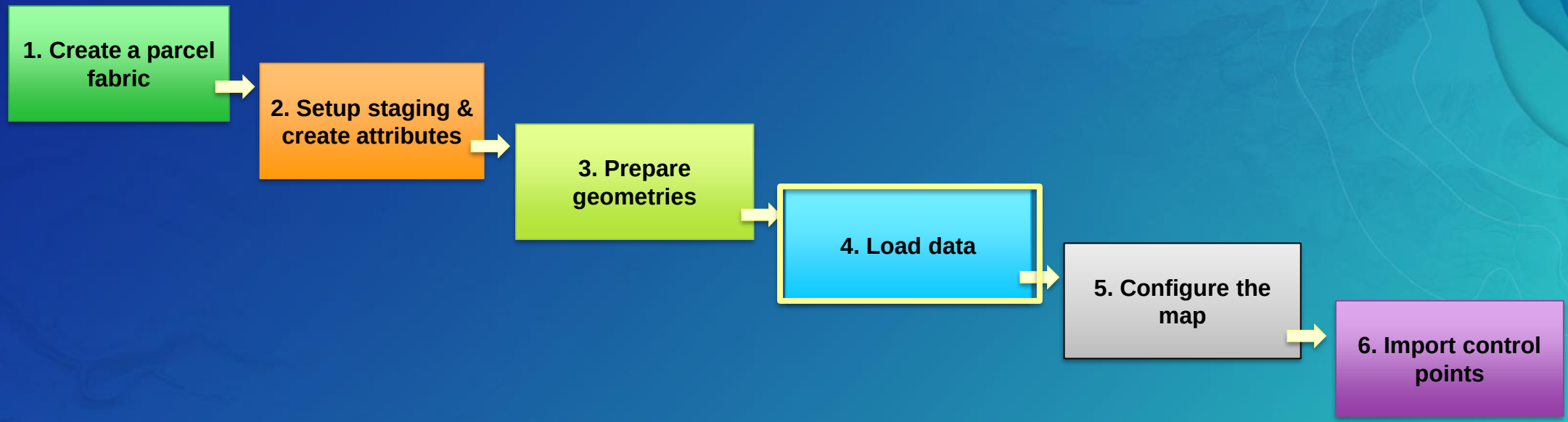


Data migration steps

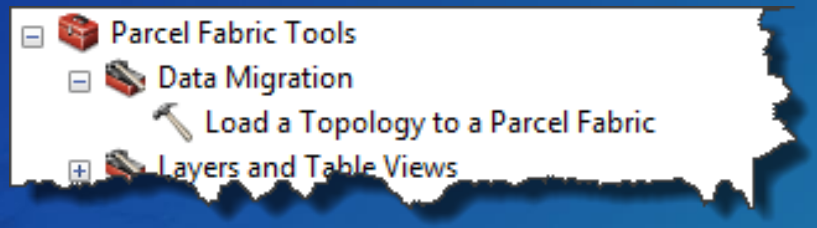
Recap



Step 4: Load data

Data migration steps

- Load a Topology to a Parcel Fabric geoprocessing Tool
- Individual topologies for each parcel type
- Topology validated against a required set of rules



Load a Topology to a Parcel Fabric

Loads polygon and line features that participate in a topology into a target parcel fabric. The topology requires a predefined set of topology rules:

- Line—Must be Covered by Boundary Of (polygon)
- Line—Must Not Self-Overlap
- Line—Must Not Self-Intersect
- Line—Must be Single Part
- Line—Must Not Intersect Or Touch Interior
- Polygon—Boundary Must be Covered By (Line)

Demo : Step 4

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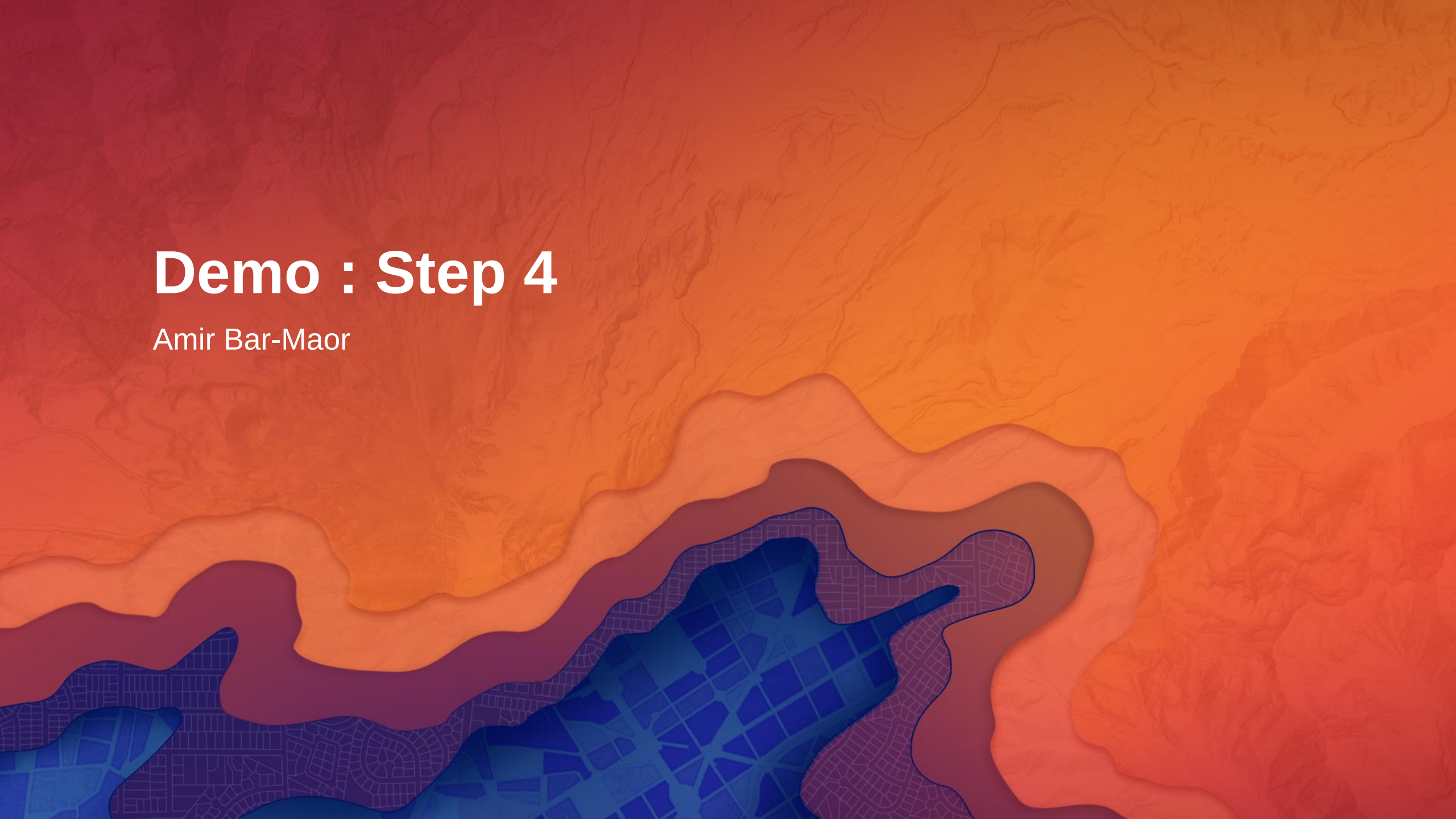
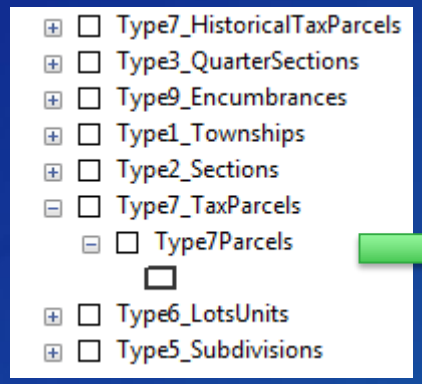
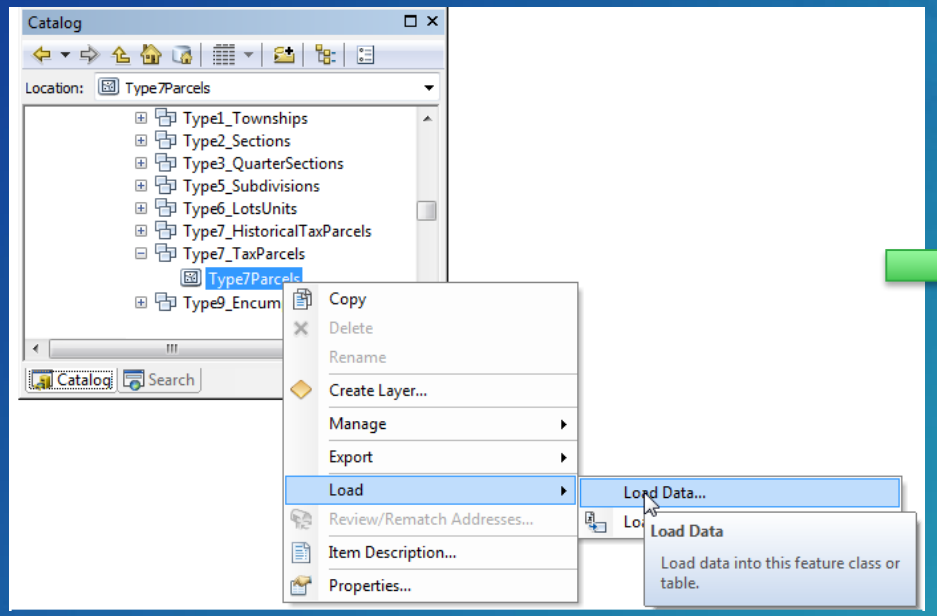


Steps 1 to 4: Summary of staging

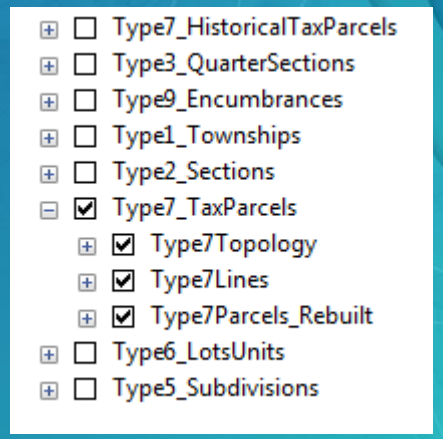
Data migration steps



- Polygon feature class for each type
- Separate feature datasets
- Add/map fields that match fabric fields



- Load source polygons into staging using Simple Data Loader

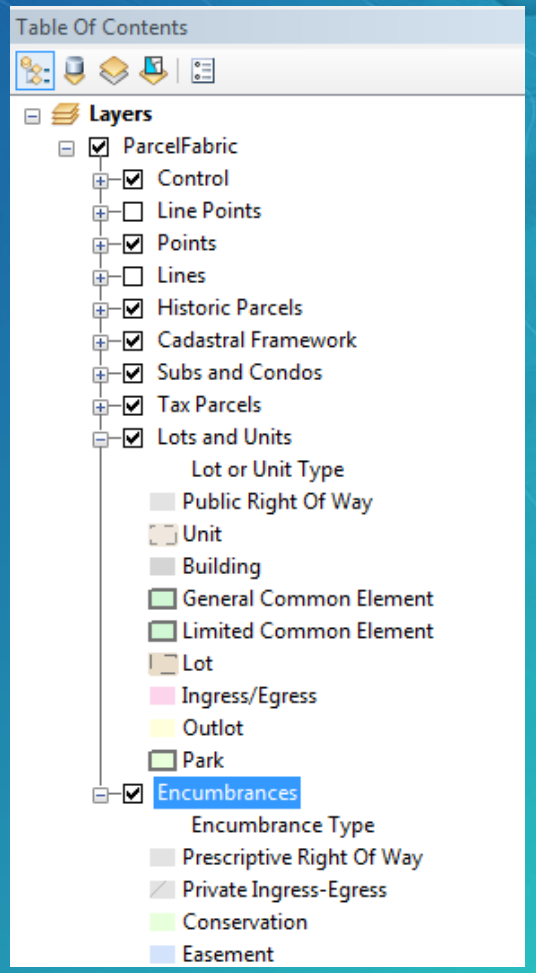


- Create lines
- Format lines
- Rebuild polygons from lines
- Create/validate topologies
- Load topologies

Step 5: Configure your map

Data migration steps

- If using the LGIM:
  - Drag LGIM-enabled parcel fabric into the map
- If using your own model
  - Query parcels and save layer files



Demo : Step 5

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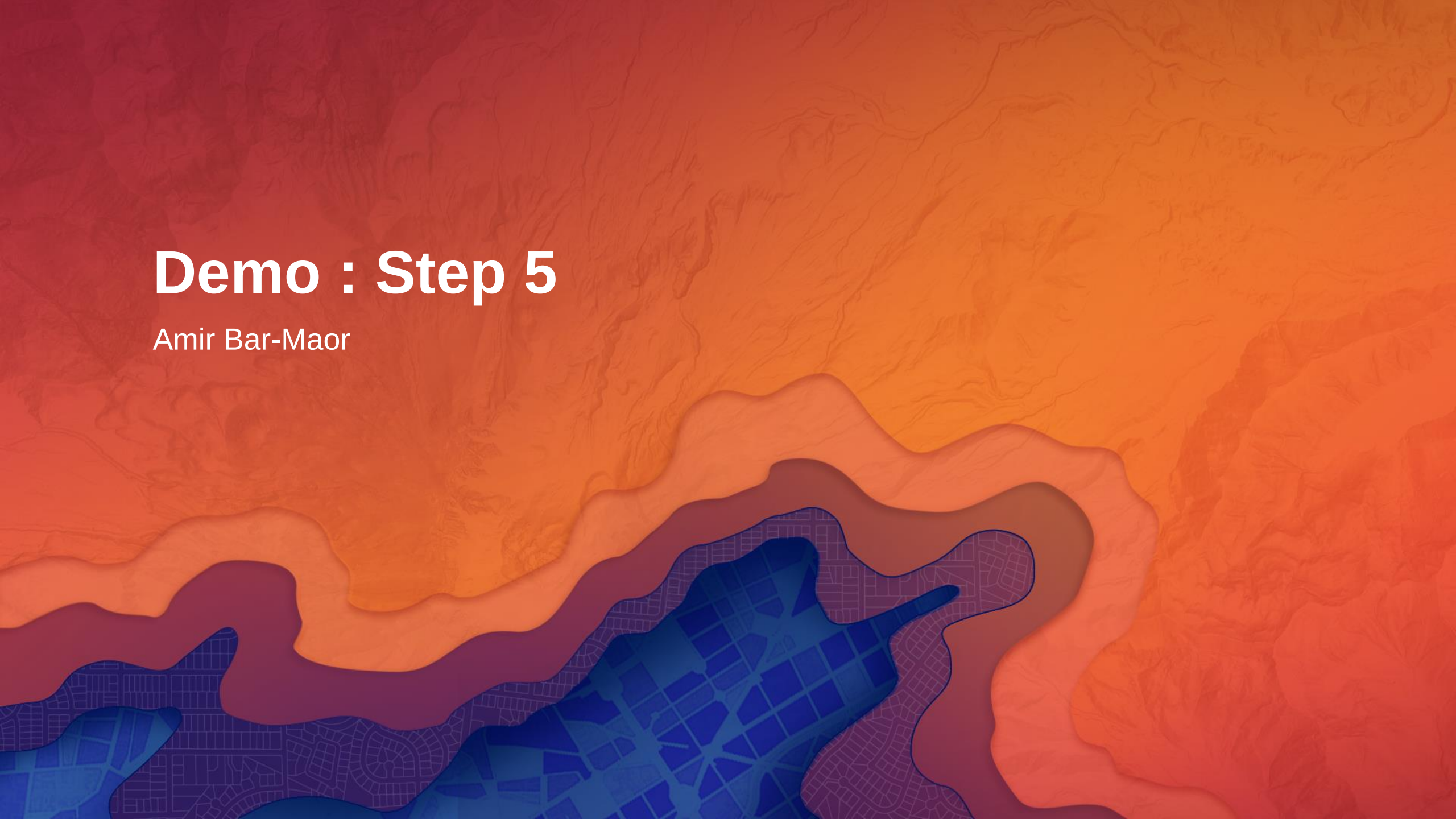
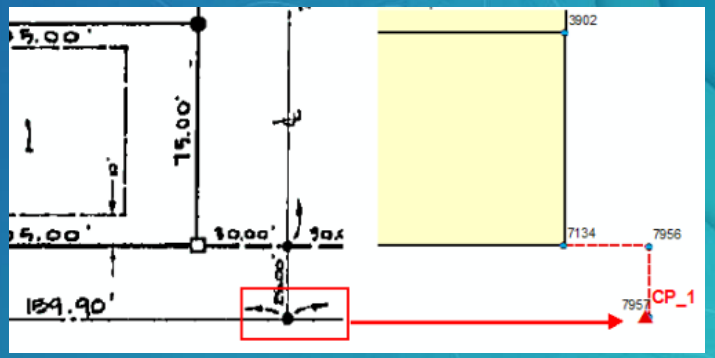


Step 6: Import control points

Data migration steps

- Why have control?
  - Accuracy for new parcels
  - Deed references control points
  - Least-Squares adjustment
- Use Import Control Points wizard
- Use XYZ coordinates
- Can be loaded multiple times for new updates to coordinates



Demo : Step 6

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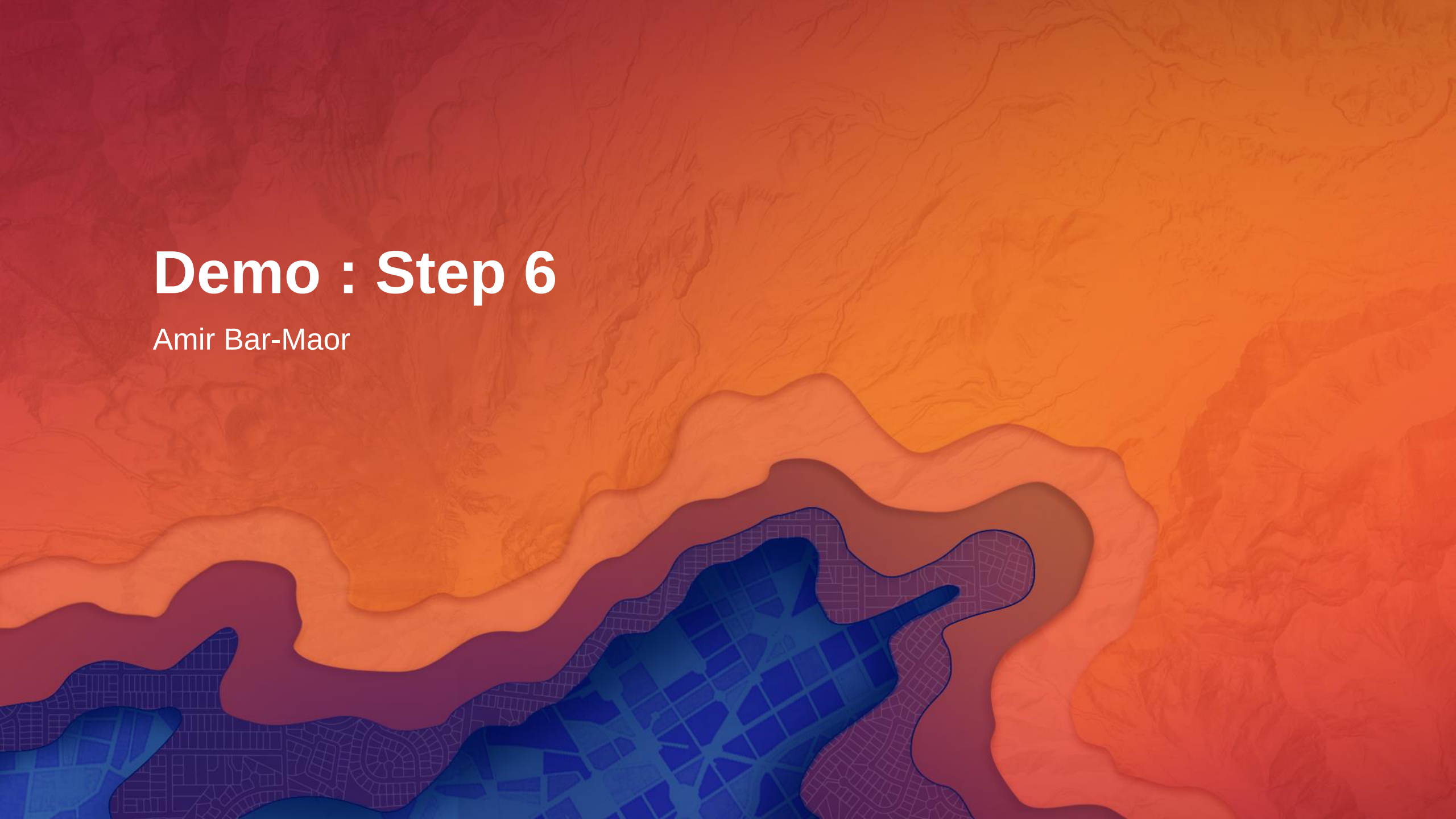
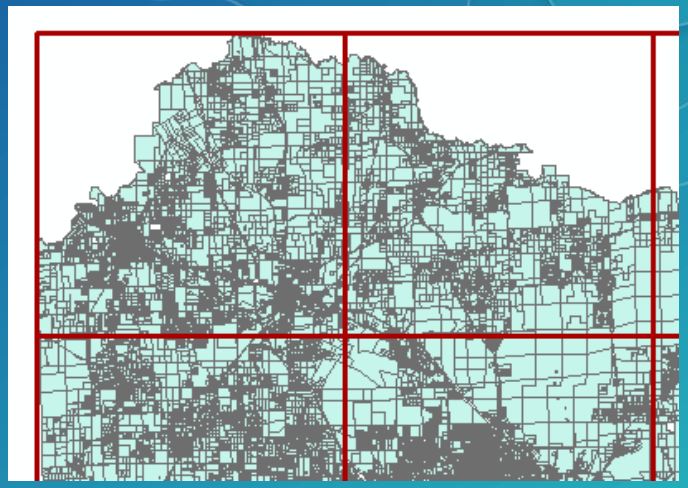


Additional considerations

- Iterate tool for large datasets
  - Divide into zones
- Overlapping parcels of the same type
  - Planarize your lines
  - Merge courses after loading
- Starting with lines instead of polygons
  - Format lines, type lines, build polygons



Resources

- Documentation
  - http://desktop.arcgis.com/en/arcmap/latest/manage-data/editing-parcels/dm-setupdatamodel.htm
- LGIM
  - Download the Maintain Tax Parcel Inventory app to get staging layer package http://solutions.arcgis.com/local-government/land-records/manage-property/
  - Enable parcel fabric with the LGIM in Catalog
- Land Records Meetup
- http://www.meetup.com/Esri-Land-Records-Meet-Up/
- Esri supported parcel fabric Add ins
  - http://www.arcgis.com/home/item.html?id=7f35ed8034a942b98bf3290f7adcbf13

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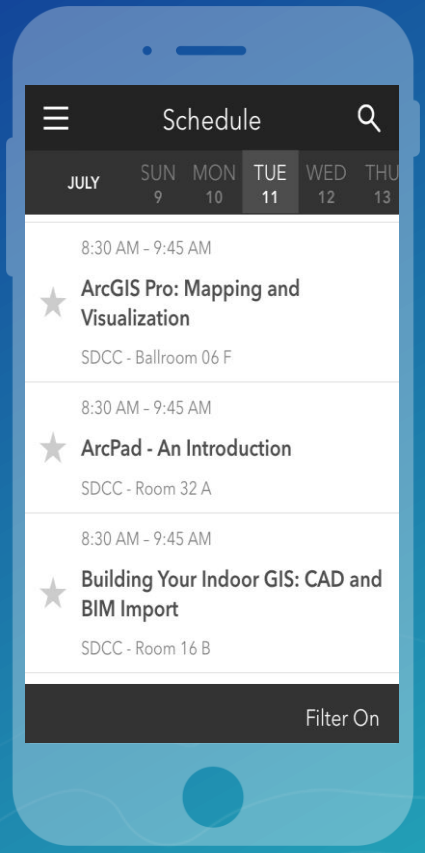
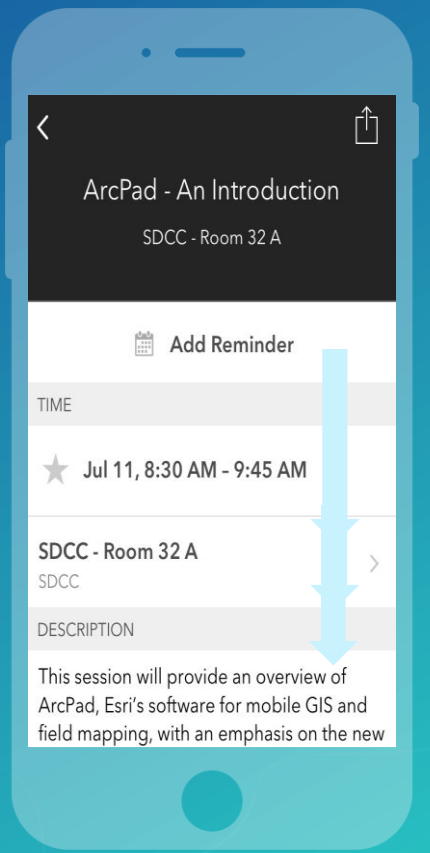
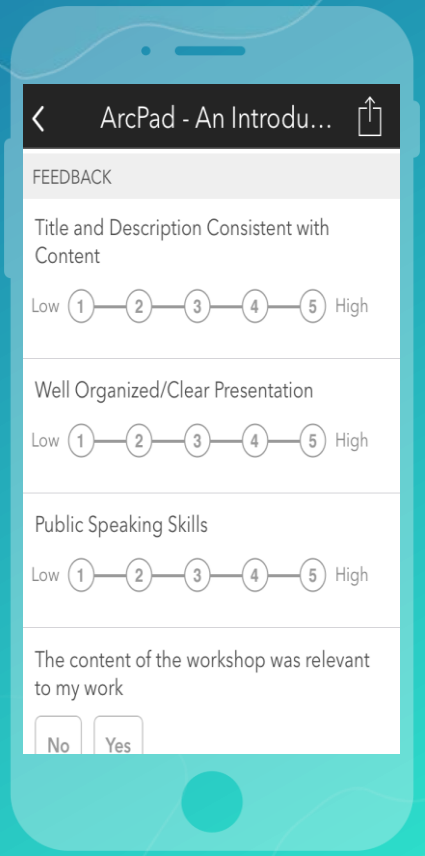


Scroll down to find the survey



Complete Answers and Select "Submit"

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