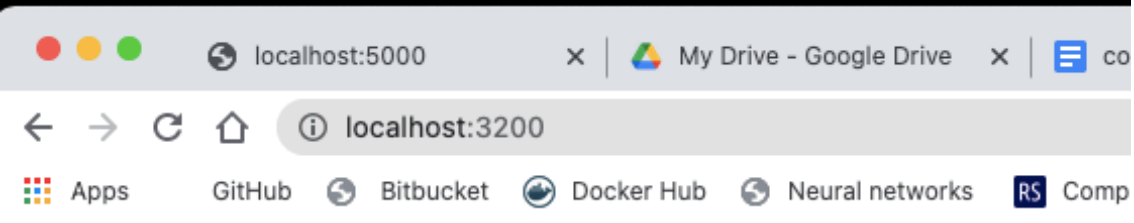


```
(testenv2) nirviksaha@nirviks-Air testDocker2 % docker build --rm -t test:latest .
[+] Building 258.2s (15/15) FINISHED
=> [internal] load build definition from Dockerfile                                0.1s
=> => transferring dockerfile: 417B                                              0.1s
=> [internal] load .dockerignore                                                 0.0s
=> => transferring context: 2B                                                  0.0s
=> [internal] load metadata for docker.io/continuumio/miniconda:latest          0.9s
=> [auth] continuumio/miniconda:pull token for registry-1.docker.io            0.0s
=> [1/9] FROM docker.io/continuumio/miniconda:latest@sha256:fee1354ae2435522b9a8a79c5f1c406facc07ec5c44d730d8053 0.0s
=> [internal] load build context                                                0.0s
=> => transferring context: 3.94kB                                              0.0s
=> CACHED [2/9] WORKDIR /home/docker_conda_template                          0.0s
=> CACHED [3/9] COPY environment.yml ./                                         0.0s
=> [4/9] COPY test.py ./                                                       0.1s
=> [5/9] COPY templates templates/                                             0.1s
=> [6/9] COPY static static/                                                   0.1s
=> [7/9] COPY boot.sh ./                                                       0.1s
=> [8/9] RUN chmod +x boot.sh                                                  0.5s
=> [9/9] RUN conda env create -f environment.yml                             222.1s
=> exporting to image                                                           34.1s
=> => exporting layers                                                         34.1s
=> => writing image sha256:5cfff57112c535759925b2c1098e4a2f784f0630c91857833b30b72c56804519 0.0s
=> => naming to docker.io/library/test:latest                                0.0s
(testenv2) nirviksaha@nirviks-Air testDocker2 % _
```



upload a new file and view results

Choose File

No file chosen

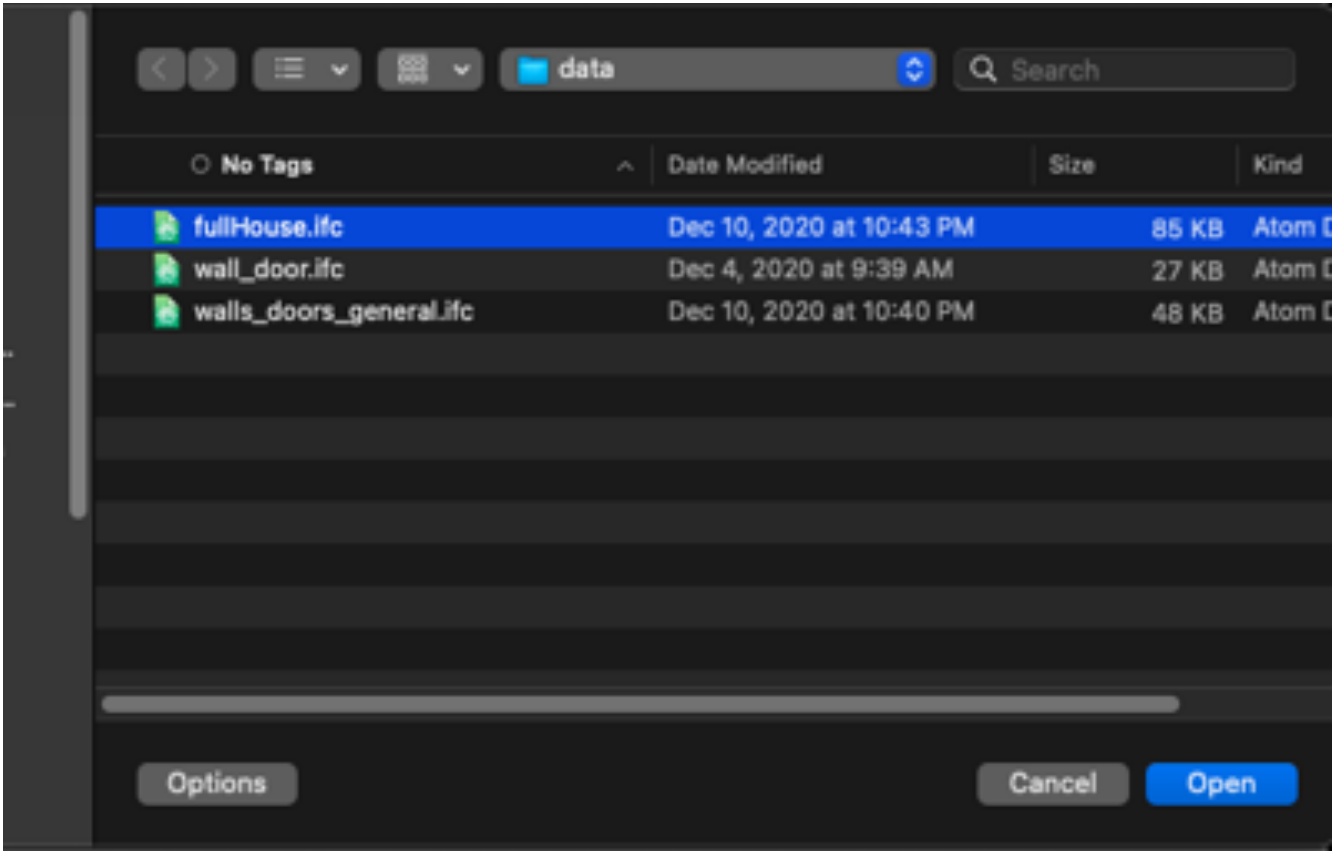
submit for inspection

review files in db

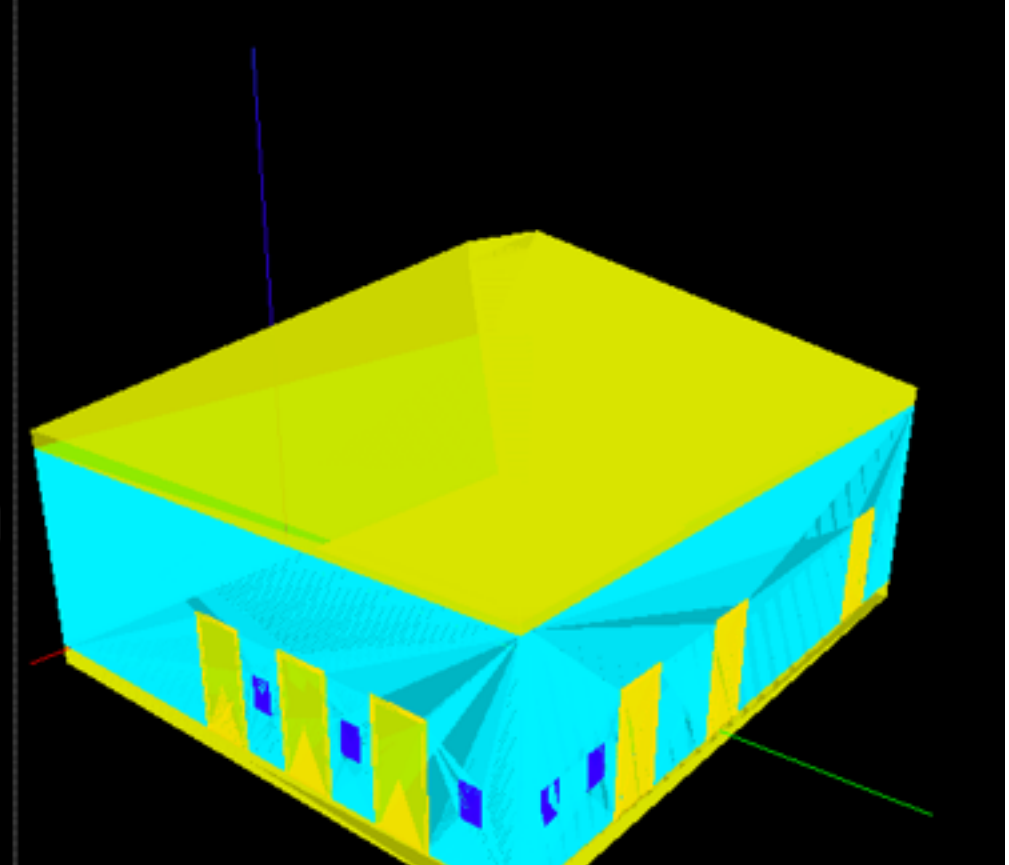
click on entry & submit to review

- 1 test_house_1
- 2 abcd
- 3 test_house

submit for view



IfcBuildingStorey	0	<input type="checkbox"/>
IfcWallStandardCase	300	<input checked="" type="checkbox"/>
IfcWallStandardCase	36	<input checked="" type="checkbox"/>
IfcWallStandardCase	36	<input checked="" type="checkbox"/>
IfcWallStandardCase	360	<input checked="" type="checkbox"/>
IfcDoor	204	<input checked="" type="checkbox"/>
IfcDoor	204	<input checked="" type="checkbox"/>
IfcDoor	204	<input checked="" type="checkbox"/>
IfcDoor	204	<input checked="" type="checkbox"/>
IfcDoor	204	<input checked="" type="checkbox"/>
IfcDoor	204	<input checked="" type="checkbox"/>
IfcSlab	36	<input checked="" type="checkbox"/>
IfcWindow	324	<input checked="" type="checkbox"/>
IfcWindow	324	<input checked="" type="checkbox"/>
IfcWindow	324	<input checked="" type="checkbox"/>
IfcWindow	324	<input checked="" type="checkbox"/>
IfcWindow	324	<input checked="" type="checkbox"/>
IfcRoof	0	<input type="checkbox"/>
IfcSlab	24	<input checked="" type="checkbox"/>
IfcSlab	36	<input checked="" type="checkbox"/>
IfcSlab	24	<input checked="" type="checkbox"/>
IfcSlab	36	<input checked="" type="checkbox"/>
IfcSite	0	<input type="checkbox"/>
IfcOpeningElement	36	<input type="checkbox"/>
IfcOpeningElement	36	<input type="checkbox"/>



RemoteDB

6 DBS 13 COLLECTIONS

★ FAVORITE

HOSTS
cluster0-shard-00-00.wwe...
cluster0-shard-00-01.wwe...
cluster0-shard-00-02.wwe...

CLUSTER
Replica Set (atlas-n6oalu-s...
3 Nodes

EDITION
MongoDB 4.2.11 Enterprise

Collections

CREATE COLLECTION

Collection Name	Documents	Avg. Document Size	Total Document Size	Num. Indexes	Total Index Size	Properties
abcd	1	26.4 KB	26.4 KB	1	20.0 KB	
test_house	1	679.6 KB	679.6 KB	1	20.0 KB	
test_house_1	1	679.6 KB	679.6 KB	1	20.0 KB	

RemoteDB

6 DBS 13 COLLECTIONS

★ FAVORITE

HOSTS

- cluster0-shard-00-00.wwe...
- cluster0-shard-00-01.wwe...
- cluster0-shard-00-02.wwe...

CLUSTER

Replica Set (atlas-n6oalu-s...

3 Nodes

EDITION

MongoDB 4.2.11 Enterprise

Filter your data

- > MoneyObj
- > Parcel
- > admin
- > config
- > ifcproj
- abcd
- test_house
- test_house_1
- > local

ifcproj.abcd Documents

ifcproj.abcd

DOCUMENTS 1 TOTAL SIZE 26.4KB AVG. SIZE 26.4KB INDEXES 1 TOTAL SIZE 20.0KB AVG. SIZE 20.0KB

Documents Aggregations Schema Explain Plan Indexes Validation

FILTER OPTIONS FIND RESET ...

ADD DATA VIEW

Displaying documents 1 - 1 of 1 REFRESH

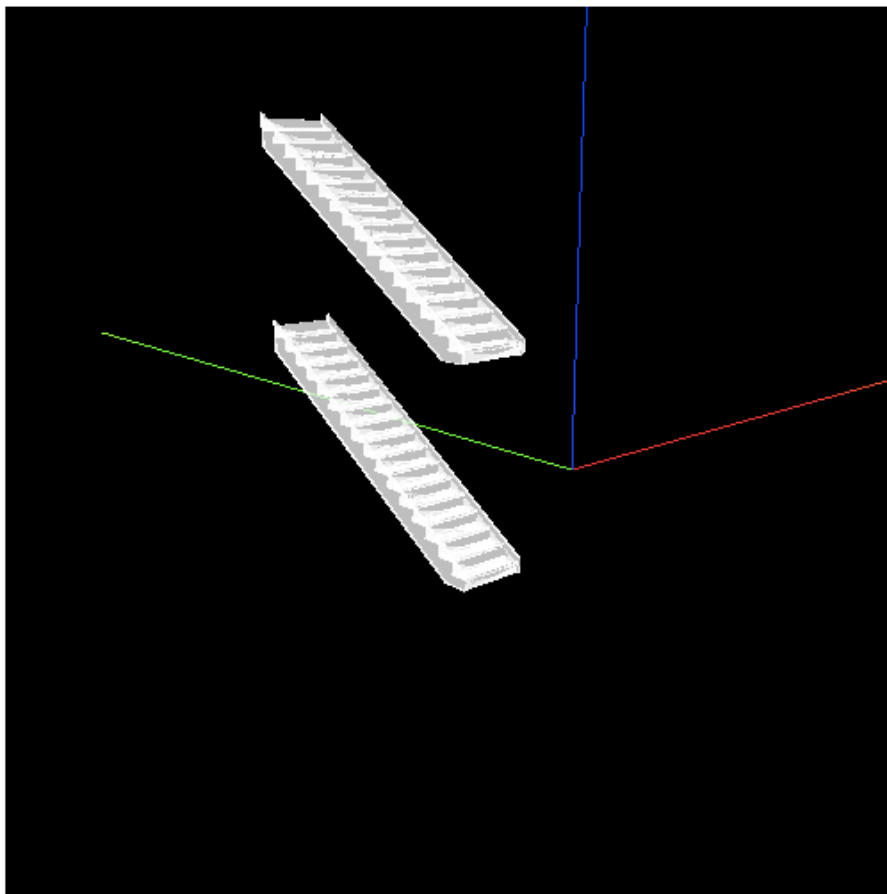
```
1  _id: ObjectId("5ffe9a98f78ce1718269cdfc")
   FILE_SCHEMA("IFC2X3");
   ENDSEC;
   DATA;
   #1= IFCORGANIZATION($,'Autodesk Revit 2016 (ENU)',$,,$,$);
   #5= IFCAPPLICATION(#1,'2016','Autodesk Revit 2016 (ENU)','Revit');
   #6= IFCCARTESIANPOINT((0.,0.,0.));
   #9= IFCCARTESIANPOINT((0.,0.));
   #11= IFCDIRECTION((1.,0.,0.));
   #13= IFCDIRECTION((-1.,0.,0.));
   #15= IFCDIRECTION((0.,1.,0.));
   #17= IFCDIRECTION((0.,-1.,0.));
   #19= IFCDIRECTION((0.,0.,1.));
3  num_lines : 418
```

ObjectId

String

Int32

IfcWindow	324	<input type="checkbox"/>
IfcWindow	324	<input type="checkbox"/>
IfcStairFlight	1188	<input checked="" type="checkbox"/>
IfcMember	48	<input checked="" type="checkbox"/>
IfcMember	48	<input checked="" type="checkbox"/>
IfcWallStandardCase	36	<input type="checkbox"/>
IfcDoor	204	<input type="checkbox"/>
IfcStairFlight	1188	<input checked="" type="checkbox"/>
IfcMember	48	<input checked="" type="checkbox"/>
IfcMember	48	<input checked="" type="checkbox"/>
IfcWallStandardCase	54	<input type="checkbox"/>
IfcOpeningElement	36	<input type="checkbox"/>
IfcWallStandardCase	60	<input type="checkbox"/>
IfcOpeningElement	36	<input type="checkbox"/>
IfcOpeningElement	36	<input type="checkbox"/>
IfcWallStandardCase	36	<input type="checkbox"/>
IfcWallStandardCase	36	<input type="checkbox"/>
IfcWallStandardCase	84	<input type="checkbox"/>
IfcWallStandardCase	84	<input type="checkbox"/>
IfcWallStandardCase	36	<input type="checkbox"/>
IfcPlate	36	<input type="checkbox"/>



```

docker

[2021-01-13 08:59:32 +0000] [7] [INFO] Booting worker with pid: 7
[2021-01-13 09:00:25 +0000] [1] [CRITICAL] WORKER TIMEOUT (pid:7)
[2021-01-13 09:00:25 +0000] [7] [INFO] Worker exiting (pid: 7)
[2021-01-13 09:00:25 +0000] [8] [INFO] Booting worker with pid: 8
connected to db...
test_house_1
abcd
test_house
[2021-01-13 09:17:59 +0000] [8] [INFO] Worker exiting (pid: 8)
[2021-01-13 09:17:59 +0000] [1] [INFO] Handling signal: term
[2021-01-13 09:18:54 +0000] [1] [INFO] Starting gunicorn 20.0.4
[2021-01-13 09:18:54 +0000] [1] [INFO] Listening at: http://0.0.0.0:3200 (1)
[2021-01-13 09:18:54 +0000] [1] [INFO] Using worker: sync
[2021-01-13 09:18:54 +0000] [8] [INFO] Booting worker with pid: 8
[2021-01-13 09:19:33 +0000] [1] [CRITICAL] WORKER TIMEOUT (pid:8)
[2021-01-13 09:19:33 +0000] [8] [INFO] Worker exiting (pid: 8)
[2021-01-13 09:19:33 +0000] [9] [INFO] Booting worker with pid: 9
connected to db...
test_house_1
abcd
test_house
view entry test_house
connected to db...
READ --> FILTER
[2021-01-13 09:20:13 +0000] [1] [CRITICAL] WORKER TIMEOUT (pid:9)
[2021-01-13 09:20:13 +0000] [9] [INFO] Worker exiting (pid: 9)
[2021-01-13 09:20:13 +0000] [18] [INFO] Booting worker with pid: 18

```

IFC File to JSON Converter

Choose File

No file chosen

submit to generate JSON

upload a new file and view results

Choose File

No file chosen

submit for inspection

review files in db

click on entry & submit to review

- 1 test_house_1
- 2 abcd
- 3 efgh
- 4 test_house

submit for view

Run Jan's code
Generate JSON,
Goto JSON-LD

To view
product
Geometry

Review IFC Files
in DB

Run Jan's code & Generate JSON,
Add context to Jan Output for LD process



Json Id

Show Json Data Show Json Linked Data Show Framed View

Add Framing definition

Json or JsonLD (use buttons above)

Add a frame (paste or type)

```
{
  "@context": {
    "@vocab": "http://bsi.org/ifc/4x3/",
    "@base": "http://myfile.org/ids/",
    "ref": "@id",
    "data": "@graph",
    "type": "@type",
    "globalId": "@id"
  },
  "type": "IFC.JSON",
  "version": "0.0.1",
  "schemaIdentifier": "IFC2X3",
  "originatingSystem": "IFC2JSON_python Version 0.0.1",
  "preprocessorVersion": "IfcOpenShell 0.6.0b0",
  "timeStamp": "2021-01-20T22:25:17",
  "data": [
    {
      "type": "IfcProject",
      "globalId": "5328ee0a-0698-43fb-9942-0bfd53ef8459",
      "name": "Project Number",
      "longName": "Project Name",
      "phase": "Project Status",
      "representationContexts": [
        {
          "type": "IfcGeometricRepresentationContext",
          "ref": "47f515bb-ae8d-4777-9075-aeef2a0537faa"
        },
        {
          "type": "IfcGeometricRepresentationContext",
          "ref": "2b142172-f828-4d68-a70a-f8efc7c2108f"
        }
      ]
    }
  ]
}
```

GENERATE THE FRAME

Generated Frame definition (view)



Json Id

Output Framed Data

[Show Json Data](#)[Show Json Linked Data](#)[Show Framed Data](#)[Close Output Panel](#)

Json of (from buttons above)

```
{
  "@context": {
    "@vocab": "http://bsi.org/ifc/4x3/",
    "@base": "http://myfile.org/ids/",
    "ref": "@id",
    "data": "@graph",
    "type": "@type",
    "globalId": "@id//myfile.org/ids/",
    "ref": "@id",
    "data": "@graph",
    "type": "@type",
    "globalId": "@id//myfile.org/ids/"
  },
  "data": [
    {
      "ref": "5328ee0a-0698-43fb-9942-0bfd53ef8459",
      "type": "IfcProject",
      "isDecomposedBy": {
        "version": "ref": "b67fbb79-d5a8-4faf-8e31-5e6d7758ba18",
        "schemaId": "type": "IfcRelAggregates",
        "originator": "python Version 0.0.1",
        "preprocessor": "ref": "5328ee0a-0698-43fb-9942-0bfd53ef845b",
        "timeStamp": "type": "IfcSite",
        "data": [
          "isDecomposedBy": {
            {
              "ref": "fb5ae4c8-7858-4784-b46a-5d0be733ba9b",
              "type": "IfcRelAggregates",
              "globalId": "ref": "5328ee0a-0698-43fb-9942-0bfd53ef8459",
              "name": "Proj",
              "ref": "5328ee0a-0698-43fb-9942-0bfd53ef8458",
              "longName": "Proj",
              "type": "IfcBuilding",
              "phase": "Proj",
              "isDecomposedBy": {
                "representationContext": "ref": "ecc8a882-7d85-4169-83b7-590f3dbc46eb",
                {
                  "type": "IfcRelAggregates",
                  "relatedObjects": {
                    "ref": "2ad446",
                    "ref": "5328ee0a-0698-43fb-9942-0bfdac1048a6",
                    "type": "IfcBuildingStorey",
                    "containsElements": {
                      "type": "IfcGeomet",
                      "ref": "79503529-d2a7-11d3-9162-0001863f14a2",
                      "type": "IfcRelContainedInSpatialStructure",
                      "relatedElements": {

```

Add a frame (paste or type)

```
type : IfcProject ,
"@explicit": true,
"isDecomposedBy": {
  "@explicit": true,
  "relatedObjects": {
    "@explicit": true,
    "isDecomposedBy": {
      "@explicit": true,
      "relatedObjects": {
        "@explicit": true,
        "isDecomposedBy": {
          "@explicit": true,
          "relatedObjects": {
            "@explicit": true,
            "containsElements": {
              "@explicit": true,
              "relatedElements": {
                "@explicit": true,
                "isDefinedBy": {
                  "@explicit": true
                }
              }
            }
          }
        }
      }
    }
  }
}
```

Works with Docker

```
(testenv2) nirviksaha@nirviks-MacBook-Air testDocker2 % docker login
Authenticating with existing credentials...
Login Succeeded
(testenv2) nirviksaha@nirviks-MacBook-Air testDocker2 % docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
server               latest              4965c2dfd23f       5 days ago         1.75GB
nirvik00/nsifcproj   push2              4965c2dfd23f       5 days ago         1.75GB
test                 latest              5cffc57112c5       12 days ago        1.73GB
nirvik00/nsifcproj   <none>              5cffc57112c5       12 days ago        1.73GB
api                  latest              73a87626702c       13 days ago        772MB
(testenv2) nirviksaha@nirviks-MacBook-Air testDocker2 % docker build --rm -t server:latest .
[+] Building 288.8s (21/22)
=> [internal] load build definition from Dockerfile                                0.0ss
=> => transferring dockerfile: 84B                                                0.0ss
[=> [internal] load .dockerignore                                                  0.0ss
=> => transferring context: 2B                                                    0.0ss
=> [internal] load metadata for docker.io/continuumio/miniconda:latest           1.0ss
=> [auth] continuumio/miniconda:pull token for registry-1.docker.io             0.0ss
=> [internal] load build context                                                  0.1ss
=> => transferring context: 1.07MB                                                0.1ss
=> [ 1/16] FROM docker.io/continuumio/miniconda:latest@sha256:fee1354ae2435522b9a8a79c5f1c406facc0 0.0ss
=> CACHED [ 2/16] WORKDIR /home/docker_conda_ifcproj                          0.0ss
=> [ 3/16] COPY environment.yml ./                                                0.1ss
=> [ 4/16] COPY server.py ./                                                    0.1ss
=> [ 5/16] COPY process_ifc.py ./                                                0.1ss
[+] Building 289.4s (21/22)
=> [internal] load build definition from Dockerfile                                0.0s => => transferring dockerfile: 84B                                           0.0s
=> [internal] load .dockerignore                                                  0.0s => => transferring context: 2B                                           0.0s
=> [internal] load metadata for docker.io/continuumio/miniconda:latest           1.0s => [auth] continuumio/miniconda:pull token for registry-1.docker.io       0.0s
=> [internal] load build context                                                  0.1s => => transferring context: 1.07MB                                           0.1s
[+] Building 316.0s (22/22) FINISHED
=> [internal] load build definition from Dockerfile                                0.0s0 => => transferring dockerfile: 84B                                           0.0s0 => => transferring context: 2B                                           0.0s1 => [internal] load metadata for docker.io/continuumio/miniconda:latest
=> [internal] load .dockerignore                                                  0.0s => => transferring context: 2B                                           0.0s1 => [internal] load metadata for docker.io/continuumio/miniconda:latest
=> [auth] continuumio/miniconda:pull token for registry-1.docker.io             0.0s => [internal] load build context                                           0.1s0 => => transferring context: 1.07MB
=> [ 1/16] FROM docker.io/continuumio/miniconda:latest@sha256:fee1354ae2435522b9a8a79c 0.0s => CACHED [ 2/16] WORKDIR /home/docker_conda_ifcproj
=> [ 3/16] COPY environment.yml ./                                                0.0s1 => [ 3/16] COPY environment.yml ./
=> [ 4/16] COPY server.py ./                                                    0.1s => [ 5/16] COPY process_ifc.py ./
=> [ 5/16] COPY process_ifc.py ./                                                0.1s1 => [ 6/16] COPY crud.py ./
=> [ 6/16] COPY crud.py ./                                                      0.0s => [ 7/16] COPY tmpIfcFile.ifc ./
=> [ 7/16] COPY tmpIfcFile.ifc ./                                                0.1s1 => [ 8/16] COPY tmpIfcFile.ifc ./
=> [ 8/16] COPY tmpIfcFile.ifc ./                                                0.1s1 => [ 9/16] COPY janIfcFile.ifc ./
=> [ 9/16] COPY janIfcFile.ifc ./                                                0.1s1 => [10/16] COPY janIfcFile.ifc ./
=> [10/16] COPY janIfcFile.ifc ./                                                0.1s1 => [11/16] COPY ifcjson ifcjson/
=> [11/16] COPY ifcjson ifcjson/                                                0.1s1 => [12/16] COPY templates templates/
=> [12/16] COPY templates templates/                                            0.1s6 => [13/16] COPY templates templates/
=> [13/16] COPY templates templates/                                            0.1s6 => [14/16] COPY templates templates/
=> [14/16] COPY templates templates/                                            0.1s6 => [15/16] RUN chmod +x boot.sh
=> [15/16] RUN chmod +x boot.sh                                                0.1s6 => [16/16] RUN chmod +x boot.sh
=> [16/16] RUN conda env create -f environment.yml                             257.6ss => exporting to image
=> [16/16] RUN conda env create -f environment.yml                             257.6ss => exporting to image
=> => writing image sha256:6d97c4c017cd3bd26bb07c539ed8a99ddcb87ca08157224963bfe3e67a9 0.0s => => naming to docker.io/library/server:latest
=> [16/16] RUN conda env create -f environment.yml                             257.6ss => exporting to image
=> => writing image sha256:6d97c4c017cd3bd26bb07c539ed8a99ddcb87ca08157224963bfe3e67a9 0.0s => => naming to docker.io/library/server:latest
(testenv2) nirviksaha@nirviks-MacBook-Air testDocker2 % docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
server               latest              6d97c4c017cd       2 minutes ago      1.78GB
nirvik00/nsifcproj   push2              4965c2dfd23f       5 days ago         1.75GB
test                 latest              5cffc57112c5       12 days ago        1.73GB
nirvik00/nsifcproj   <none>              5cffc57112c5       12 days ago        1.73GB
api                  latest              73a87626702c       13 days ago        772MB
(testenv2) nirviksaha@nirviks-MacBook-Air testDocker2 %
```

Server

Flask App – Python

Read IFC – ifcopenshell & send to frontend

DB transactions MongoDB

Frontend

Html/css/js

Three.js to generate the 3d

Deploy

Wsgi gunicorn

Conda env

Docker

Package the virtual environment

Push to docker hub

Run via Docker