# Geo Point:

# - Good for storing lat/lon points

# - Supports polygon and distance searches

# - Supports sort-by-distance

# - Supports various aggregation operations

DELETE /listings

# Declare a geo-point type for the address.

PUT /listings

{

"mappings": {

"properties": {

"address": {

"type": "object",

"properties": {

"fullAddress": {"type": "text"},

"geocode": {"type": "geo\_point"}

}

}

}

}

}

# Index example docs

POST /listings/\_doc/1

{

"address": {

"fullAddress": "511 Church St, Richmond, VIC 3121",

"geocode": {

"lat": -37.829,

"lon": 144.995

}

}

}

POST /listings/\_doc/2

{

"address": {

"fullAddress": "Kirribilli House, Kiribilli Ave, Kirribilli NSW 2061",

"geocode": {

"lat": -33.851,

"lon": 151.217

}

}

}

# Bounding box search

GET /listings/\_search

{

"query": {

"geo\_bounding\_box": {

"address.geocode": {

"top\_left": {

"lat": -37,

"lon": 144

},

"bottom\_right": {

"lat": -38,

"lon": 145

}

}

}

}

}

# Radial/distance search

GET /listings/\_search

{

"query": {

"geo\_distance": {

"distance": "10km",

"address.geocode": {

"lat": -37.8,

"lon": 145

}

}

}

}

# Sort by distance

GET /listings/\_search

{

"query": {

"match\_all": {}

},

"sort": [

{

"\_geo\_distance": {

"address.geocode": {

"lat": -37.8,

"lon": 145

},

"order": "asc",

"unit": "km"

}

}

]

}

# Score by distance

# Scale is the distance at which the score will halve

GET /listings/\_search

{

"query": {

"function\_score": {

"functions": [

{

"gauss": {

"address.geocode": {

"origin": {

"lat": -37.8,

"lon": 145

},

"scale": "1000km"

}

}

}

]

}

}

}

# Score by distance using "distance\_feature"

# Potentially more efficient than "function\_score"

# unless "track\_total\_hits" is set to true.

GET /listings/\_search

{

"query": {

"distance\_feature": {

"field": "address.geocode",

"pivot": "1000km",

"origin": [

145,

-37.8

]

}

}

}

# Polygon search.

GET /listings/\_search

{

"query": {

"geo\_polygon": {

"address.geocode": {

"points": [

{

"lat": -37,

"lon": 144

},

{

"lat": -37,

"lon": 145

},

{

"lat": -40,

"lon": 145

}

]

}

}

}

}