

# OData Cheat Sheet for Dynamics 365 CE with Examples

## 1. Basic URL Structure

**Base URL:** `https://[org].api.crm[region].dynamics.com/api/data/v9.2/`

**Structure:** `[BASE_URL]/[ENTITY]?[QUERY_PARAMETERS]`

**Example:**

`https://contoso.api.crm.dynamics.com/api/data/v9.2/accounts?$select=name,revenue&$top=10`

## 2. Query Parameters

**\$select** → specify fields to return

**\$filter** → filter records

**\$orderby** → sort results

**\$top** → limit number of records

**\$skip** → skip records for pagination

**\$expand** → include related data

**\$count** → include total count

## 3. Filter Operators

**eq** → equal (revenue eq 100000)

**ne** → not equal (statecode ne 1)

**gt** → greater than (revenue gt 50000)

**ge** → greater or equal (revenue ge 50000)

**lt** → less than (employees lt 100)

**le** → less or equal (employees le 100)

**and** → logical AND

**or** → logical OR

**not** → logical NOT

## 4. String Functions

**contains(field, 'value')** → contains text

**startswith(field, 'value')** → starts with text

**endswith(field, 'value')** → ends with text

`accounts?$filter=contains(name, 'Microsoft')`  
`contacts?$filter=startswith(fullname, 'John')`

## 5. Date Functions

**year(field)** → extract year

**month(field)** → extract month

**day(field)** → extract day

`contacts?$filter=year(createdon) eq 2024`  
`contacts?$filter=month(birthdate) eq 1`

## 6. Common Examples

**Get active accounts with revenue > \$100K:**

`accounts?$filter=statecode eq 0 and revenue gt 100000&$select=name,revenue`

**Get contacts with their parent account:**

`contacts?$expand=parentcustomerid($select=name)&$select=fullname,emailaddress1`

**Get top 10 opportunities by value:**

`opportunities?$filter=statecode eq 0&$orderby=estimatedvalue desc&$top=10&$select=name,estimatedvalue`

**Get opportunities with customer and owner details:**

`opportunities?$expand=customerid($select=name),ownerid($select=fullname)&$select=name,estimatedvalue`

**Filter by lookup field (owner):**

`accounts?$filter=_ownerid_value eq guid'[USER_GUID]'`  
`&$select=name`

**Count records with filter:**

`accounts/$count?$filter=statecode eq 0 and revenue gt 100000`

## 7. Common Entities

**accounts** → Account records  
**contacts** → Contact records  
**opportunities** → Opportunity records  
**incidents** → Case records  
**leads** → Lead records  
**systemusers** → User records

## 8. HTTP Headers

```
Authorization: Bearer [token]
Accept: application/json
OData-MaxVersion: 4.0
OData-Version: 4.0
```

## 9. System Limits

**5,000** → max records per page  
**2 levels** → max \$expand depth  
**2 minutes** → query timeout  
**60/minute** → API calls per user

## 10. Error Codes

**400** → Bad Request (syntax error)  
**401** → Unauthorized  
**403** → Forbidden (no permissions)  
**404** → Not Found  
**429** → Too Many Requests