

DIN EN ISO 19168-1:2021-09 (E)

Geographic information - Geospatial API for features - Part 1: Core (ISO 19168-1:2020); English version EN ISO 19168-1:2021

| Contents | | Page |
|-----------------|--|-------------|
| Foreword | | v |
| Introduction | | vi |
| 1 | Scope | 1 |
| 2 | Normative references | 1 |
| 3 | Terms, definitions and abbreviated terms | 1 |
| 3.1 | Abbreviated terms | 2 |
| 4 | Conformance | 3 |
| 5 | Conventions | 4 |
| 5.1 | Identifiers | 4 |
| 5.2 | Link relations | 4 |
| 5.3 | Use of HTTPS | 5 |
| 5.4 | HTTP URIs | 5 |
| 5.5 | API definition | 5 |
| 5.5.1 | General remarks | 5 |
| 5.5.2 | Role of OpenAPI | 5 |
| 5.5.3 | References to OpenAPI components in normative statements | 6 |
| 5.5.4 | Paths in OpenAPI definitions | 6 |
| 5.5.5 | Reusable OpenAPI components | 6 |
| 6 | Overview | 6 |
| 6.1 | Design considerations | 6 |
| 6.2 | Encodings | 7 |
| 6.3 | Examples | 8 |
| 7 | Requirements class "Core" | 8 |
| 7.1 | Overview | 8 |
| 7.2 | API landing page | 10 |
| 7.2.1 | Operation | 10 |
| 7.2.2 | Response | 11 |
| 7.2.3 | Error situations | 11 |
| 7.3 | API definition | 12 |
| 7.3.1 | Operation | 12 |
| 7.3.2 | Response | 12 |
| 7.3.3 | Error situations | 12 |
| 7.4 | Declaration of conformance classes | 12 |
| 7.4.1 | Operation | 12 |
| 7.4.2 | Response | 13 |
| 7.4.3 | Error situations | 13 |
| 7.5 | HTTP 1.1 | 13 |
| 7.5.1 | HTTP status codes | 13 |
| 7.6 | Unknown or invalid query parameters | 14 |
| 7.7 | Web caching | 15 |
| 7.8 | Support for cross-origin requests | 15 |
| 7.9 | Encodings | 15 |
| 7.10 | String internationalization | 16 |
| 7.11 | Coordinate reference systems | 16 |
| 7.12 | Link headers | 17 |
| 7.13 | Feature collections | 17 |
| 7.13.1 | Operation | 17 |

| | | |
|-----------|---|-----------|
| 7.13.2 | Response..... | 17 |
| 7.13.3 | Error situations..... | 22 |
| 7.14 | Feature collection..... | 22 |
| 7.14.1 | Operation..... | 22 |
| 7.14.2 | Response..... | 22 |
| 7.14.3 | Error situations..... | 22 |
| 7.15 | Features..... | 23 |
| 7.15.1 | Operation..... | 23 |
| 7.15.2 | Parameter limit..... | 23 |
| 7.15.3 | Parameter bbox..... | 24 |
| 7.15.4 | Parameter datetime..... | 25 |
| 7.15.5 | Parameters for filtering on feature properties..... | 26 |
| 7.15.6 | Combinations of filter parameters..... | 27 |
| 7.15.7 | Response..... | 27 |
| 7.15.8 | Error situations..... | 29 |
| 7.16 | Feature..... | 30 |
| 7.16.1 | Operation..... | 30 |
| 7.16.2 | Response..... | 30 |
| 7.16.3 | Error situations..... | 30 |
| 8 | Requirements classes for encodings..... | 31 |
| 8.1 | Overview..... | 31 |
| 8.2 | Requirements Class "HTML"..... | 31 |
| 8.3 | Requirements Class "GeoJSON"..... | 32 |
| 8.4 | Requirements Class "Geography Markup Language (GML), Simple Features Profile, Level 0"..... | 33 |
| 8.5 | Requirements class "Geography Markup Language (GML), Simple Features Profile, Level 2"..... | 35 |
| 9 | Requirements class "OpenAPI 3.0"..... | 36 |
| 9.1 | Basic requirements..... | 36 |
| 9.2 | Complete definition..... | 36 |
| 9.3 | Exceptions..... | 37 |
| 9.4 | Security..... | 37 |
| 9.5 | Features..... | 37 |
| 10 | Media types..... | 37 |
| 11 | Security considerations..... | 38 |
| 11.1 | General..... | 38 |
| 11.2 | Multiple access routes..... | 38 |
| 11.3 | Multiple servers..... | 39 |
| 11.4 | Path manipulation on GET..... | 39 |
| 11.5 | Path manipulation on PUT and POST..... | 39 |
| | Annex A (normative) Abstract test suite..... | 40 |
| | Bibliography..... | 54 |