**API Test Cases for /articles?include=author**

**Positive Test Cases**

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| TC # | Test Case | Steps | Expected Result |
| 1 | Verify response contains only allowed fields for articles | Send a GET /articles?include=author request and check attributes | title, body, and author should be present, no extra fields |
| 2 | Verify response contains only name field for people | Send a GET /articles?include=author request and check included objects | Only name should be present, no extra fields |
| 3 | Verify response when author relationship is missing | Send a GET /articles request without include=author | Articles should be returned without author field, no errors |
| 4 | Verify API returns empty array when no articles exist | Send a GET /articles?include=author request when DB is empty | API should return 200 OK with "data": [] |
| 5 | Verify API supports multiple authors if allowed | Send a GET /articles?include=author request with multiple authors per article | API should return multiple authors or 400 Bad Request |

**Negative Test Cases**

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| --- | --- | --- | --- |
| TC # | Test Case | Steps | Expected Result |
| 1 | Verify response fails when extra fields are present in attributes | Send a GET /articles?include=author request and check attributes | API should return 400 Bad Request or sanitize extra fields |
| 2 | Verify response fails when extra fields are present in included | Send a GET /articles?include=author request and check included section | API should return 400 Bad Request or remove extra fields |
| 3 | Verify response format follows JSON:API specification | Send a GET /articles?include=author request and validate format | API should return 400 Bad Request if format is incorrect |
| 4 | Verify behavior with an invalid include parameter | Send a GET /articles?include=invalidRelationship request | API should return 400 Bad Request |
| 5 | Verify behavior when author does not exist | Send a GET /articles?include=author request with a missing author in included | API should return 200 OK but exclude included or 404 Not Found |
| 6 | Verify response when id or type is missing in data | Remove id or type from response and check | API should return 400 Bad Request |
| 7 | Verify response when relationships.author.data is missing | Remove relationships.author.data field and check response | API should return 400 Bad Request |
| 8 | Verify response when included has incorrect type | Change included type to users instead of people | API should return 400 Bad Request |
| 9 | Verify response when id mismatch occurs | Change id in included to not match relationships.author.data | API should return 400 Bad Request |
| 10 | Verify response when multiple articles have the same author | Send a GET /articles?include=author request with duplicate authors | included should contain unique author entries |
| 11 | Verify response when title or body fields are missing | Remove title or body from an article and check response | API should return 400 Bad Request |
| 12 | Verify response when title or body has invalid data types | Change title to an integer and check response | API should return 400 Bad Request |
| 13 | Verify response when an author is included but not referenced | Include an author that is not linked to any article | API should return 400 Bad Request or exclude unused objects |
| 14 | Verify behavior with an unsupported query parameter | Send a GET /articles?include =author&unsupportedParam=value request | API should return 400 Bad Request or ignore unknown parameter |