

Code fundamentals API

Tags: Flow (<https://pluralsight.knowledgeowl.com/help/search?phrase=:Flow>)

The Code fundamentals API provides the metrics in the **Team health insights** report for use outside of Flow.

Note: Code fundamentals API is not documented in Flow's interactive API documentation (<https://flow.pluralsight.com/v3/customer/core/docs/>).

Who can use this?

Core Plus
✓

The Code fundamentals API averages **Coding days**, **Commits per day**, **Impact**, and **Efficiency** for the time period selected in the report's date range filter.

If you haven't used the Flow customer API before, learn more about [how to make a Flow API call](#) ().

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Granting permissions for Code fundamentals API

Users calling the Code fundamentals API must have **Code fundamentals API** permissions as well as a valid and unique API key. To enable API permissions for users, enable the **Manage User Permissions** permission. Learn more about [administrative permissions](https://help.pluralsight.com/help/administrative-permissions) (<https://help.pluralsight.com/help/administrative-permissions>) and [API keys](https://help.pluralsight.com/help/authentication#anchor-1) (<https://help.pluralsight.com/help/authentication#anchor-1>) in Flow.

Important: If a user does not have both the permission and the API key, they won't be able to use the Code fundamentals API. If your user can't call the Code fundamentals API, verify they have both the permission and API key.

To enable the Code Fundamentals API permission:

1. In the **Settings** left pane navigation under **User management**, click **Users**.
2. Search for the user you want to give the Code Fundamentals API permission to.
3. Click the user's name.

4. Click the **Access** tab.
5. In the **API access** column, check the **Code Fundamentals API** box.
6. Click **Save changes**.
7. Repeat this process for all users you want to access the Code Fundamentals API.

Note: These changes don't affect existing permissions for other Flow customer APIs.

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Calling the API

Call the API endpoint over standard HTTPS. Use any tool or programming language that can add the authorization: bearer <API Key> header.

The base URL for this API is:

https://flow.pluralsight.com/v3/customer/metrics/code_fundamentals/period_metrics/.

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Supported parameters

Parameter	Required or Optional	Description	Example
start_date	Required	Specifies the start of the date range.	start_date=2021-05-01
end_date	Optional	Specifies the end date of the date range. If unspecified, uses the current date.	end_date=2021-05-15
include_nested_teams	Optional	Determines whether data from nested teams are included.	include_nested_teams=true include_nested_teams=false
aggregate	Optional	Matches users and teams visible at aggregate depth. Shows anonymized aggregate metrics without individually identifiable details.	aggregate=true aggregate=false

Parameter	Required or Optional	Description	Example
atomic	Optional	Matches users and teams visible at atomic depth. Shows granular or individually identifiable details in metrics if you have the rights to see them.	atomic=true atomic=false
resolution	Required	Specifies whether metrics are averaged over a week or date range. <ul style="list-style-type: none"> period returns averages for each metric over the given date range. week returns details for each week over the given date range. 	resolution=week resolution=period
apex_user_id	Optional	Matches on the ID of a specific apex user.	apex_user_id=12345
apex_user_id_in	Optional	Matches on a set of provided apex user IDs.	apex_user_id_in=12,34,56
team_id	Optional	Matches on an ID of a specific Flow team.	team_id=12345
team_id_in	Optional	Matches on a set of provided Flow team IDs.	team_id_in=21,34,65,67
repo_id	Optional	Matches on exact repo ID.	repo_id=12345
repo_id_in	Optional	Matches on a set of provided repo IDs.	repo_id_in=1,2,3,4
repo_id_not_in	Optional	Matches on a all repo IDs except the provided repo ID set.	repo_id_not_in=67,45,34
repo_tag_id	Optional	Matches on an exact repo tag ID.	repo_tag_id=5123
repo_tag_id_in	Optional	Matches on a set of provided repo tag IDs.	repo_tag_id_in=34,21,78,45
repo_name	Optional	Matches on any repo name which contains the search parameter.	repo_name=ExampleTeam

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Result formats

The API returns results in JSON. The shape of the data depends on the `resolution` flag.

Example results for when the `resolution` flag is set to `week`:

```
{
  "count": 5,
  "results": [
    {
      "period_start_date": "2021-05-31",
      "active_days": 2.2,
      "commit_count": 4.2,
      "total_impact": 94.1,
      "total_efficiency": 78.1
    },
    {
      "period_start_date": "2021-06-07",
      "active_days": 2.8,
      "commit_count": 5.5,
      "total_impact": 111.1,
      "total_efficiency": 58
    },
    {
      "period_start_date": "2021-06-14",
      "active_days": 2.9,
      "commit_count": 3.7,
      "total_impact": 114.4,
      "total_efficiency": 65.1
    }
  ]
}
```

```
},  
  
{  
  
  "period_start_date": "2021-06-21",  
  
  "active_days": 2.7,  
  
  "commit_count": 3.9,  
  
  "total_impact": 122.9,  
  
  "total_efficiency": 76.9  
  
},  
  
{  
  
  "period_start_date": "2021-06-28",  
  
  "active_days": 1.6,  
  
  "commit_count": 5.7,  
  
  "total_impact": 85.1,  
  
  "total_efficiency": 65.4  
  
}  
  
]  
  
}
```

Note: Weeks with no data are omitted from the results.

Example results for when the `resolution` flag is set to `period`:

```
{  
  
  "count": 1,  
  
  "results": [  
  
    {  
  
      "active_days": 2.8,
```

```
    "commit_count": 4.5,  
  
    "total_impact": 121.7,  
  
    "total_efficiency": 68.2  
  
  }  
  
]  
  
}
```

Error format

If there is an error in any of the request parameters, the request will return an error.

Example error:

```
{  
  
  "start_date":  
  
    ["Provide a valid date. Date cannot be more than 3 years prior to now."],  
  
  "aggregate":  
  
    ["Provide a valid choice. 'yes' is not one of the available choices: ['true', 'false']"],  
  
  "resolution":  
  
    ["Provide a valid choice. 'month' is not one of the available choices: ['period', 'week']"]  
  
}
```

If there is an error in the request parameters, the system returns a non-200 status code in addition to the response above. This is normally a 400 error for any form of input error, and a 500 error for any back-end exceptions. For back-end exceptions, the error is generic.

Example generic error:

```
{  
  
  "error": ["Unknown error occurred"]  
  
}
```

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Examples

Get Coding metrics for a team

First, use the [Teams API endpoint to find your team ID](https://help.pluralsight.com/help/customer-api-teams) (https://help.pluralsight.com/help/customer-api-teams). In the response, note the team `id` for use in the next step.

Example query: `https://flow.pluralsight.com/v3/customer/core/teams/?name=ExampleTeam`.

Example response:

```
{
  "count":1,
  "next":null,
  "previous":null,
  "results":[
    {
      "id":12345,
      "name":"ExampleTeam",
      "description":"",
      "org":1234,
      "avatar":null,
      "vendor":null,
      "created_at":"2020-09-22T15:55:26.482759",
      "parent":54321,
      "path":"11188.99591.52870",
      "ancestors":["ParentTeam","AnotherTeam","ExampleTeam"],
      "visibility":"SHOW",
      "team_level":3,
      "inherited_depth":"atomic",
      "nested_teams":0,
      "all_users":4,
    }
  ]
}
```

```
"unnested_users":4,  
  
"depth":"inherit"  
  
}  
  
]  
  
}
```

To get the overall average of your team's Coding metrics over a specified period, insert the team ID in the `team_id` parameter of the Code fundamentals API endpoint. Set `resolution` to `period`.

Example query: https://flow.pluralsight.com/v3/customer/metrics/code_fundamentals/period_metrics/?start_date=2021-06-01&end_date=2021-06-30&team_id=12345&include_nested_teams=true&resolution=period.

Example response:

```
{  
  
"count": 1,  
  
"results": [  
  
  {  
  
    "active_days": 2.4,  
  
    "commit_count": 3.5,  
  
    "total_impact": 97.7,  
  
    "total_efficiency": 83.1  
  
  }  
  
]  
  
}
```

To get the weekly averages of your team's Coding metrics for a specified period, insert the team ID in the `team_id` parameter of the Code fundamentals API endpoint. Set `resolution` to `week`.

Example query: https://flow.pluralsight.com/v3/customer/metrics/code_fundamentals/period_metrics/?start_date=2021-06-01&end_date=2021-06-30&team_id=12345&include_nested_teams=true&resolution=week.

Note: Weeks with no commit activity are omitted from the response.

Example response:

```
{
  "count": 5,
  "results": [
    {
      "period_start_date": "2021-05-31",
      "active_days": 1.0,
      "commit_count": 4.0,
      "total_impact": 18.5,
      "total_efficiency": 52.6
    },
    {
      "period_start_date": "2021-06-07",
      "active_days": 1.0,
      "commit_count": 4.0,
      "total_impact": 33.8,
      "total_efficiency": 94.9
    },
    {
      "period_start_date": "2021-06-14",
      "active_days": 3.0,
      "commit_count": 3.5,
      "total_impact": 118.0,
      "total_efficiency": 91.4
    }
  ]
}
```

```
    },
    {
      "period_start_date": "2021-06-21",
      "active_days": 2.5,
      "commit_count": 4.0,
      "total_impact": 151.7,
      "total_efficiency": 78.1
    },
    {
      "period_start_date": "2021-06-28",
      "active_days": 3.0,
      "commit_count": 2.3,
      "total_impact": 87.4,
      "total_efficiency": 77.9
    }
  ]
}
```

Get Coding metrics for an individual

To get Coding metrics for a single user, find the user's Apex user ID in the user's endpoint of the Flow customer API. See [Users API \(https://help.pluralsight.com/help/users\)](https://help.pluralsight.com/help/users) to learn more about retrieving a user's Apex user ID. Note the id for the user you want to see the Fundamentals metrics for.

Example query: `https://flow.pluralsight.com/v3/customer/core/users/?team_member=12345`.

Note: This example uses the team ID from the previous example to find the Apex user ID. Your request may look different if you use a different parameter to find the user's Apex user ID.

Example response:

```
{
```

```
"count": 4,

"next": null,

"previous": null,

"results": [

  {

    "id": 1234567,

    "name": "Stephanie Ventura",

    "email": "stephanie-ventura@examplecompany.com",

    "hidden_from_reports": false,

    "org_id": 1234,

    "created_at": "2019-06-24T21:50:40.880538",

    "teams": [

      {

        "id": 12345,

        "name": "ExampleTeam",

        "description": "",

        "org": 1234,

        "avatar": null,

        "vendor": null,

        "created_at": "2020-09-22T15:55:26.482759",

        "parent": 54321,

        "path": "11188.99591.52870",

        "visibility": "SHOW",

        "inherited_depth": null,

        "nested_teams": 0,
```

```
"all_users": 4,  
  
"unnested_users": 4,  
  
"depth": "inherit"  
  
},  
  
{  
  
  ...  
  
}  
  
],  
  
"has_login": true,  
  
"pending_invitation": false,  
  
"alias_count": 8,  
  
"last_activity_at": "2021-08-09T12:24:18",  
  
"first_activity_at": "2019-06-24T19:13:02.504000",  
  
"avatar_url": "https://secure.gravatar.com/avatar/example.jpg?s=96&d=retro&r=g",  
  
"avatar_exists": false,  
  
"invitation_id": null,  
  
"login_enabled": true,  
  
"is_saml": true,  
  
"is_group_member": false,  
  
"hidden": false,  
  
"hidden_by": null,  
  
"hidden_at": "2020-11-17T04:07:57.948366",  
  
"login": {  
  
  ...  
  
}
```

```
},  
  
{  
  ...  
},  
  
{  
  ...  
},  
  
{  
  ...  
}  
  
]  
  
}
```

Once you have the Apex user ID, insert it into the `apex_user_id` parameter and set `resolution` to `period` to return the Coding metrics' overall averages across a specified period.

Example query: https://flow.pluralsight.com/v3/customer/metrics/code_fundamentals/period_metrics/?start_date=2021-06-01&end_date=2021-06-30&apex_user_id=1234567&resolution=period.

Example response:

```
{  
  
  "count": 1,  
  
  "results": [  
  
    {  
  
      "active_days": 3.3,  
  
      "commit_count": 4.2,  
  
      "total_impact": 154.9,  
  
      "total_efficiency": 71.1  
  
    }  
  
  ]  
  
}
```

```
]
}
```

To get weekly averages, use the `apex_user_id` parameter and set `resolution` to `week`.

Example query: https://flow.pluralsight.com/v3/customer/metrics/code_fundamentals/period_metrics/?start_date=2021-06-01&end_date=2021-06-30&apex_user_id=1234567&resolution=week.

Example response:

```
{
  "count": 5,
  "results": [
    {
      "period_start_date": "2021-05-31",
      "active_days": 2.8,
      "commit_count": 3.9,
      "total_impact": 123.8,
      "total_efficiency": 76.2
    },
    {
      "period_start_date": "2021-06-07",
      "active_days": 3.0,
      "commit_count": 5.1,
      "total_impact": 136.6,
      "total_efficiency": 60.3
    },
    {
      "period_start_date": "2021-06-14",
      "active_days": 3.2,
```

```
"commit_count": 3.9,  
  
"total_impact": 141.2,  
  
"total_efficiency": 67.1  
  
},  
  
{  
  
"period_start_date": "2021-06-21",  
  
"active_days": 3.2,  
  
"commit_count": 3.6,  
  
"total_impact": 168.4,  
  
"total_efficiency": 79.3  
  
},  
  
{  
  
"period_start_date": "2021-06-28",  
  
"active_days": 2.1,  
  
"commit_count": 4.4,  
  
"total_impact": 99.3,  
  
"total_efficiency": 74.1  
  
}  
  
]  
  
}
```

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