

# Google Apps Script Quickstart Code Examples

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## Create a Spreadsheet with rows and columns values from a loop

Create a sheet, with cell, row and column counters to populate the data. Create a folder, or select a folder to move the spreadsheet file into.

	A	B	C
1	Cell 1 Col 1 Row 1	Cell 2 Col 2 Row 1	Cell 3 Col 3 Row 1
2	Cell 4 Col 1 Row 2	Cell 5 Col 2 Row 2	Cell 6 Col 3 Row 2
3	Cell 7 Col 1 Row 3	Cell 8 Col 2 Row 3	Cell 9 Col 3 Row 3
4	Cell 10 Col 1 Row 4	Cell 11 Col 2 Row 4	Cell 12 Col 3 Row 4
5	Cell 13 Col 1 Row 5	Cell 14 Col 2 Row 5	Cell 15 Col 3 Row 5

```
function maker1() {
  //const id = '1Q7*****v6IPjVU1P';
  //const folder = DriveApp.getFolderById(id);
  const folder = DriveApp.createFolder('New One');
  const sheet = SpreadsheetApp.create('new sheet 2',5,3);
  let cell = 1;
  for(let row=0;row<5;row++){
    const holder = [];
    for(let col=0;col<3;col++){
      holder.push(`Cell ${cell} Col ${col+1} Row ${row+1}`);
      cell++;
    }
    sheet.appendRow(holder);
  }
  Logger.log(sheet.getUrl());
  const sheetid = sheet.getId();
  const file = DriveApp.getFileById(sheetid);
  file.moveTo(folder);
}
```

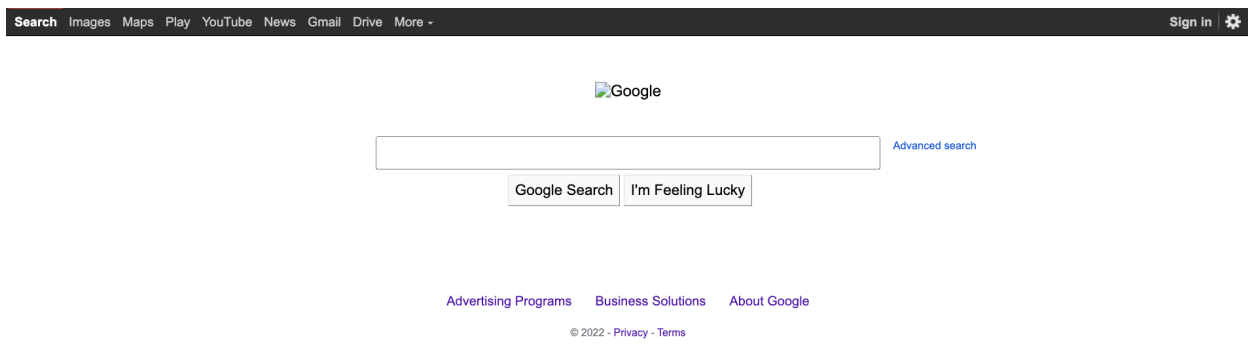
Use array data to create a spreadsheet and populate the values

	A	B
1	one	two
2	three	four
3	five	six

```
function maker2(){  
  const sheet = SpreadsheetApp.create('data',3,2);  
  sheet.appendRow(['one','two']);  
  sheet.appendRow(['three','four']);  
  sheet.appendRow(['five','six']);  
}
```

## Apps Script UrlFetchApp Get URL Data and output to Web App

Fetch in the Class UrlFetchApp can be used to request a response from URLs.



Webapp with output from Google.com website source code.

```
function doGet(){
  const html = getData();
  //return ContentService.createTextOutput(html);
  return HtmlService.createHtmlOutput(html);
}
```

```
function getData(){
  const url = 'http://www.google.com';
  const response = UrlFetchApp.fetch(url);
  return response.getContentText();
}
```

## Populate Spreadsheet data from Web API

Connect to a web API and return the JSON data to Google Apps Script. Use the JSON data to return object values that can then be used to populate into a spreadsheet.

← → ↻ randomuser.me/api/?results=10

```
{
  "results": [
    {
      "gender": "male",
      "name": {
        "title": "Mr",
        "first": "Vincent",
        "last": "Ramos"
      },
      "location": {
        "street": {
          "number": 4083,
          "name": "Manor Road"
        },
        "city": "Bath",
        "state": "Cambridgeshire",
        "country": "United Kingdom",
        "latitude": "51.3803",
        "longitude": "-143.7486",
        "timezone": {
          "offset": "-6:00",
          "description": "Central Time (US & Canada), Mexico City"
        },
        "email": "vincent.amos@example.com",
        "login": {
          "uid": "fb37d5c6a63bee8",
          "username": "bluetiger528",
          "password": "fish",
          "salt": "57c9f3tk",
          "md5": "ad03a34075ba08adf181ae9a6d65f78",
          "sha1": "e580a7bdc9c7950d73c4a2fc6eac8be1b7f0ca",
          "sha256": "6d040b366d4ae"
        },
        "dob": {
          "date": "1991-07-18T20:54:42.153Z",
          "age": 31,
          "registered": {
            "date": "2007-11-13T20:06:18.568Z",
            "age": 15,
            "phone": "017687 24641",
            "cell": "0735-499-235",
            "id": {
              "name": "NINO",
              "value": "CY 27 3"
            },
            "large": "https://randomuser.me/api/portraits/men/76.jpg",
            "medium": "https://randomuser.me/api/portraits/med/men/76.jpg",
            "thumbnail": "https://randomuser.me/api/portraits/thumb/men/76.jpg"
          },
          "title": "Ms",
          "first": "Nila",
          "last": "Levang",
          "location": {
            "street": {
              "number": 6145,
              "name": "Svaleveien"
            },
            "city": "Bjertnesstunet",
            "state": "Sogn og Fjordane",
            "country": "Norway",
            "postcode": "10461",
            "latitude": "-36.4745",
            "longitude": "22.5596",
            "timezone": {
              "offset": "+5:00",
              "description": "Ekaterinburg, Islamabad, Karachi, Tashkent"
            },
            "email": "nila.levang@example.com",
            "login": {
              "uid": "0bcf7c2b404b74a",
              "username": "orangegoose365",
              "password": "bigred",
              "salt": "7wCCoazP",
              "md5": "40052347ed52787040cc4a2c8ea4ff4",
              "sha1": "fe38ed3dce1c08ac73be822b7393c2861a16165",
              "sha256": "10008b463"
            },
            "dob": {
              "date": "1995-07-29T04:33:22.534Z",
              "age": 27,
              "registered": {
                "date": "2018-01-31T12:16:01.583Z",
                "age": 4,
                "phone": "62838615",
                "cell": "95900925",
                "id": {
                  "name": "FN",
                  "value": "2907954636"
                },
                "large": "https://randomuser.me/api/portraits/women/44.jpg",
                "medium": "https://randomuser.me/api/portraits/med/women/44.jpg",
                "thumbnail": "https://randomuser.me/api/portraits/thumb/women/44.jpg"
              },
              "title": "Monsieur",
              "first": "Claude",
              "last": "Joly",
              "location": {
                "street": {
                  "number": 5152,
                  "name": "Rue du Moulin"
                },
                "city": "Cugy (Pr)",
                "state": "Obwalden",
                "country": "Switzerland",
                "postcode": "5523",
                "latitude": "-13.5310",
                "longitude": "-85.5838",
                "timezone": {
                  "offset": "-1:00",
                  "description": "Brussels, Copenhagen, Madrid, Paris"
                },
                "email": "claude.joly@example.com",
                "login": {
                  "uid": "548e845d-4df8b65ea6e9",
                  "username": "organicleopard242",
                  "password": "simpsons",
                  "salt": "AmctUqoc",
                  "md5": "5e0f0dfef12089d9bf7723a3dbla7a00",
                  "sha1": "9496ce276b6036f20129a401490ced700e15723a",
                  "sha256": "20ecf079d6"
                },
                "dob": {
                  "date": "1995-03-16T02:16:58.538Z",
                  "age": 27,
                  "registered": {
                    "date": "2004-05-04T18:14:19.717Z",
                    "age": 18,
                    "phone": "077 814 74 06",
                    "cell": "078 923 00 83",
                    "id": {
                      "name": "AVS",
                      "value": "1234567890"
                    },
                    "large": "https://randomuser.me/api/portraits/men/20.jpg",
                    "medium": "https://randomuser.me/api/portraits/med/men/20.jpg",
                    "thumbnail": "https://randomuser.me/api/portraits/thumb/men/20.jpg"
                  },
                  "title": "Mrs",
                  "first": "Elaine",
                  "last": "Duncan",
                  "location": {
                    "street": {
                      "number": 6478,
                      "name": "France Ct"
                    },
                    "city": "Baltimore",
                    "state": "Rhode Island",
                    "country": "United States",
                    "postcode": "14098",
                    "latitude": "-64.0263",
                    "longitude": "36.8641",
                    "timezone": {
                      "offset": "+9:30",
                      "description": "Adelaide, Darwin"
                    },
                    "email": "elaine.duncan@example.com",
                    "login": {
                      "uid": "87cde036-b8ae-4634-ba73-1e354d7de748",
                      "username": "redfish650",
                      "password": "chimera",
                      "salt": "06RR58VP",
                      "md5": "172a8916d5b1829af19274fbc60c3e8",
                      "sha1": "9dcd630c7a8d80f329e5e367380d7807298324b8",
                      "sha256": "217e309e746e"
                    },
                    "dob": {
                      "date": "1970-01-25T22:59:26.367Z",
                      "age": 52,
                      "registered": {
                        "date": "2008-07-24T14:31:58.382Z",
                        "age": 14,
                        "phone": "(369)-499-6780",
                        "cell": "(610)-604-4285",
                        "id": {
                          "name": "SSN",
                          "value": "024"
                        },
                        "large": "https://randomuser.me/api/portraits/women/63.jpg",
                        "medium": "https://randomuser.me/api/portraits/med/women/63.jpg",
                        "thumbnail": "https://randomuser.me/api/portraits/thumb/women/63.jpg"
                      },
                      "title": "Mr",
                      "first": "Çağrı",
                      "last": "Çağrı",
                      "location": {
                        "street": {
                          "number": 8956,
                          "name": "Nevlana Cd"
                        },
                        "city": "Çanakkale",
                        "state": "Van",
                        "country": "Turkey",
                        "postcode": "71477",
                        "coordinates": {
                          "lat": "38.7500",
                          "lon": "43.0000"
                        }
                      }
                    }
                  }
                }
              }
            }
          }
        }
      }
    }
  ]
}
```

A	B	C	D	E
First	Last	Country	Email	
Fiona	Van der Kwast	Netherlands	fiona.vanderkwast@example.com	
Cosimo	Schweikert	Germany	cosimo.schweikert@example.com	
Lea	Ginnish	Canada	lea.ginnish@example.com	
Lucas	Anderson	New Zealand	lucas.anderson@example.com	
Mustafa	Türkdoğan	Turkey	mustafa.turkdogan@example.com	
Ava	Graves	Ireland	ava.graves@example.com	
Ernest	Masson	Switzerland	ernest.masson@example.com	
Thibault	Muller	France	thibault.muller@example.com	
Gloria	Carmona	Spain	gloria.carmona@example.com	
Odila	Caldeira	Brazil	odila.caldeira@example.com	

```
function getUsers(){
  const results = 10;
  const url = 'https://randomuser.me/api/?results='+results;
  const res = UriFetchApp.fetch(url);
  //Logger.log(res.getContentText());
  const json = JSON.parse(res.getContentText());
  //Logger.log(json.results);
  const sheet = SpreadsheetApp.create('users');
  sheet.appendRow(['First','Last','Country','Email']);
  json.results.forEach(item =>{
    const u = item.name;
    const l = item.location;
    sheet.appendRow([u.first,u.last,l.country,item.email]);
    const user = `${u.title} ${u.first} ${u.last}`;
    Logger.log(user);
  })
}
```

# How to send data to an endpoint UrlFetchApp POST JSON

Use of [https://httpbin.org/#/HTTP\\_Methods/get\\_get](https://httpbin.org/#/HTTP_Methods/get_get) and post to test fetch request.

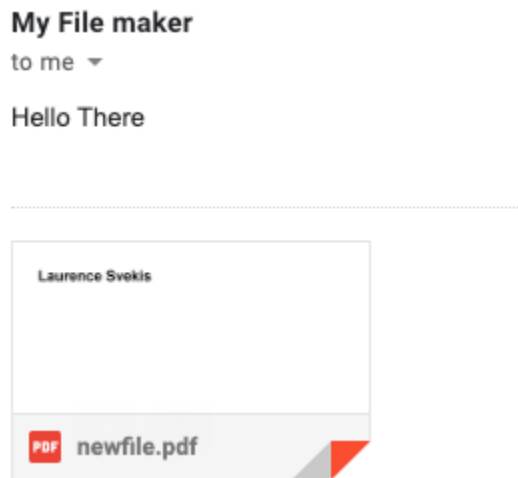
```
Info      {headers={X-Amzn-Trace-Id=Root=1-62
          deflate, br, User-Agent=Mozilla/5.0
          +https://script.google.com; id: UAE
          Type=application/json}, origin=198.
          {"first":"Laurence","last":"Svekis"
          first=Laurence, last=Svekis}}
```

A	B	C
First	Last	ID
Laurence	Svekis	100

```
function sender1(){
  const url = 'https://httpbin.org/post';
  const vals = {
    'first' : 'Laurence',
    'last'  : 'Svekis',
    'id'    : 100
  }
  const strVals = JSON.stringify(vals);
  const opts = {
    'method' : 'post',
    'contentType' : 'application/json',
    'payload' : strVals
  }
  const rep = UrlFetchApp.fetch(url,opts);
  const data = rep.getContentText();
  const obj = JSON.parse(data);
```

```
Logger.log(obj.json);
const sheet = SpreadsheetApp.create('JSON');
sheet.appendRow(['First','Last','ID']);
sheet.appendRow([obj.json.first,obj.json.last,obj.json.id]);
}
```

## Sending Emails with MailApp Class using Google Apps Script



Create a file as a blob, then attach the blob as a PDF in an email.

```
function creator1(){
const html = '<h1>Laurence Svekis</h1>';
const blob = Utilities.newBlob(html,'text/plain','newfile.txt');
const email = Session.getActiveUser().getEmail();
MailApp.sendEmail(email,'Check it out','Hello There',{
  name : 'My File maker',
  attachments : [blob.getAs(MimeType.PDF)]
});
}
```

# Advanced options for send emails with MailApp

Send emails to multiple recipients with a comma separated string containing the emails.

```
function creator2(){
  const email = Session.getActiveUser().getEmail();
  const html = '<h1>Laurence Svekis</h1>';
  const emails =
'gapps*****+1@gmail.com,gap*****es+2@gmail.com,ga*****es+3@gmail.c
om';
  MailApp.sendEmail({
    name : 'Laurence',
    to : emails,
    cc : email,
    bcc : email,
    replyTo : 'LaurenceSvekis*****@basescripts.com',
    subject : 'Subject',
    htmlBody: html
  });
}
```



# How to check your daily quota of remaining emails to send in MailApp with Apps Script

```
1 function checker1(){
2   const val = MailApp.getRemainingDailyQuota();
```

## Execution log

5:34:20 PM	Notice	Execution started
5:34:20 PM	Info	78.0
5:34:20 PM	Notice	Execution completed

```
function checker1(){
  const val = MailApp.getRemainingDailyQuota();
  Logger.log(val);
}
```

# JSON output from Object Data into a web app URL

```
[{"first": "Laurence", "last": "Svekis", "id": 500},
{"first": "Jane", "last": "Doe", "id": 5}]
```

```
function makerObj(){
  const obj = [
    {
      first : 'Laurence',
      last : 'Svekis',
      id : 500
    },
    {
      first : 'Jane',
      last : 'Doe',
```

```

    id : 5
  }
];
return obj;
}

```

```

function doGet(){
  const obj = makerObj();
  const output = JSON.stringify(obj);
  return
  ContentService.createTextOutput(output).setMimeType(ContentService.MimeType.JS
  ON);
}

```

## Create an Object using Sheet Data

```
[{email=fiona.vanderkwast@example.com, first=Fiona, last=Van der Kwast,
country=Netherlands}, {country=Germany, email=cosimo.schweikert@example.com,
last=Schweikert, first=Cosimo}, {country=Canada, last=Ginnish,
email=lea.ginnish@example.com, first=Lea}, {email=lucas.anderson@example.com,
last=Anderson, country=New Zealand, first=Lucas}, {country=Turkey, first=Mustafa,
last=Türkdoğan, email=mustafa.turkdogan@example.com}, {last=Graves, country=Ireland,
email=ava.graves@example.com, first=Ava}, {first=Ernest, country=Switzerland,
email=ernest.masson@example.com, last=Masson}, {first=Thibault, country=France,
email=thibault.muller@example.com, last=Muller}, {first=Gloria, country=Spain,
last=Carmona, email=gloria.carmona@example.com}, {country=Brazil,
email=odila.caldeira@example.com, last=Caldeira, first=Odila}]
```

First	Last	Country	Email
Fiona	Van der Kwast	Netherlands	fiona.vanderkwast@example.com
Cosimo	Schweikert	Germany	cosimo.schweikert@example.com
Lea	Ginnish	Canada	lea.ginnish@example.com

Lucas	Anderson	New Zealand	lucas.anderson@example.com
Mustafa	Türkdoğan	Turkey	mustafa.turkdogan@example.com
Ava	Graves	Ireland	ava.graves@example.com
Ernest	Masson	Switzerland	ernest.masson@example.com
Thibault	Muller	France	thibault.muller@example.com
Gloria	Carmona	Spain	gloria.carmona@example.com
Odila	Caldeira	Brazil	odila.caldeira@example.com

```
function makeObj(rows,headings){
  return rows.map(function(row){
    const tempObj = {};
    headings.forEach((heading,index)=>{
      heading = heading.toLowerCase();
      heading = heading.replace(/s/g, "");
      tempObj[heading] = row[index];
    })
    return tempObj;
  })
}
```

## Sheet Data as JSON Object connect with JavaScript output into a web page

HTML

```
<!DOCTYPE html>
<html>
<head>
  <title>Sheet Data</title>
</head>
<body>
```

```
<div class="output">Click</div>
<script src="app.js"></script>
</body>
</html>
```

JavaScript

```
const url = 'https://script.google.com/macros/s/AK*****/exec';
const output = document.querySelector('.output');
output.onclick = ()=>{
  fetch(url)
  .then(res => res.json())
  .then(data =>{
    maker(data);
  })
}
```

```
function maker(data){
  const main = document.createElement('div');
  output.append(main);
  data.forEach(user=>{
    const div = document.createElement('div');
    div.innerHTML = `${user.email} ${user.first} ${user.last}
    ${user.country}`;
    main.append(div);
  })
}
```

Apps Script

```
function sheetData(){
  const id = '1JZA6Qi*****ZHJ_eA';
  const ss = SpreadsheetApp.openById(id);
```

```

const sheet = ss.getSheetByName('data');
const data = sheet.getDataRange().getValues();
const headings = data[0];
const rows = data.slice(1);
return (makeObj(rows,headings));
}

```

```

function makeObj(rows,headings){
return rows.map(function(row){
const tempObj = {};
headings.forEach((heading,index)=>{
heading = heading.toLowerCase();
heading = heading.replace(/\s/g, "");
tempObj[heading] = row[index];
})
return tempObj;
})
}

```

```

function doGet(){
const obj = sheetData();
const output = JSON.stringify(obj);
return
ContentService.createTextOutput(output).setMimeType(ContentService.MimeType.JSON);
}

```