

ORGANOGRAM VISUALISATION TOOL GUIDE



The Data Portal Quick-Setup Guides by data.gov.uk are brief introductory documents aimed at triggering the right thinking when planning to establish a data portal at a governmental or institutional level.

The guides are based on the experience of the data.gov.uk team in the United Kingdom and are the first layer of a more in depth set of guidance that will be produced across the next 6 months by the data.gov.uk team.

The process is iterative, with newer versions being provided as further information becomes available. These guidance will be accompanied by a forum on data.gov.uk where those working on setting up a data portal can share experiences, ask questions (which may later be incorporated into the guidance) and discuss new approaches for the future. The developing open data portals forum is available at <http://data.gov.uk/forum>

Introduction

In March 2011, the UK introduced a visualisation tool based on the latest semantic web principles. The tool provided a visualisation based on a common hierarchy so that different organisations within the UK government could be compared by users. The tool itself has been improved over the last year to enhance the users' experience of the tool.

The code is available as open source.

The following guidance breaks down the information and process used by the UK to use the tool for publication of staff organograms. All references to staff detail are based on the UK Civil Service structure that is used as the foundation for the UK exercise. The UK also makes available the raw data in CSV and RDF format amongst others.

For the sake of this guidance, it has been assumed that clearance to publish the level of data required has been obtained from the relevant authority in advance.

System Requirements and Security

To run the visualisation tool requires access to:

Internet Explorer 7 or later version; or Firefox 3.5, Chrome, Safari

Microsoft Excel 2003 or later version

Java Script Enabled

The preview system uses internal email addresses to restrict access to individual organograms from the organisation i.e. only a person with a valid email address for the chosen organisation will be able to view the preview or delete the spreadsheet.

Code

The code for the organogram visualisation tool can be found at <http://code.google.com/p/linked-data-api/>

Structure

The tool uses information entered in an excel workbook and the hierarchy is based on the Senior Civil Service grades. This basic grade data is embedded in the tool and cannot be altered by participating organisations.

The grades of staff are used to create 'levels' of authority; with all posts indicating which senior post they report to. Each senior post is allocated a Unique Reference to allow the system to build the hierarchy from the data given.

The tool is also structured to accept entry of a parent department and organisation name, this allows the tool to list a main department with its Agencies and Arms Length Bodies. It does not however merge the resulting organograms; each organisation will be shown in their own visualisation separate from the parent department.

Structure - Excel Spreadsheet

Information

The tool uses an excel spreadsheet to capture the basic data for this exercise.

The spreadsheet uses four types of data:

- Embedded data lists

- Self created data lists

- Free text

- Automatic completion

Once the final spreadsheet has been completed, a validation tool checks the data to ensure the correct format has been used in each cell and whether cross reference data is valid. If invalid data has been entered the tool will not be able to 'build' the organogram

Structure - Embedded Data Lists

Within the spreadsheet there are embedded data lists that hold pre-determined information that cannot be altered by organisations. These are used for core information that will require completion by all organisations participating in the exercise.

The UK has three embedded lists:

- Parent Department – the core Government Departments that have oversight of all other government organisations. This allows the user to see the relationship between Central Departments and Arms Length Bodies

- For Senior Staff only Grades – the SCS grades structure that all senior posts should map to. For organisations that do not use the SCS grades, an equivalent SCS grade must be selected based on responsibility and salary.

- Professional/Occupational Group – a pre-determined list of recognised professions from within government. This data allows the user to compare employment in the listed professions across all government organisations.

Structure - Self Created Data Lists

The spreadsheet allows organisations to create data lists for commonly used pieces of information that are specific to them.

In the UK there are three self created data lists offered:

Generic Units –each organisation creates a list of the Units within their structure. This is usually broken down to, as a minimum standard, Director General level but can be split further if required

Generic Job Titles – a list of all job titles within the organisation. Guidance suggests that the lists should recognise specialist job titles as well as generic ones such as Admin Assistant. The greater the clarity the more the user will understand the roles within the organisation. However, care needs to be taken with junior post job titles, as the greater the clarity the more an individual can be identified; this is not in line with UK advice that junior posts are only reported as groups of staff by grade and role and that no member of junior staff's personal data can be identified from the publication.

Junior Grades and Paybands – a list of all junior grades and their full pay scale.

Structure - Free Text

All other data is collated as free text but there are parameters set within the cells to ensure only valid format data is entered.

The UK gives strict parameters in its guidance for data content. This is done not only to ensure that only valid format data is entered but additionally to provide the greatest possible comparison across organisations.

Structure - Automatic Completion

There are 3 cells that automatically complete on the spreadsheet:

Senior Spreadsheet – Actual Pay Ceiling – this will automatically complete to create a £5k pay band based on the figure entered in the 'Actual Pay Floor' cell. It was deemed by the Information Chief Officer that senior staff salaries could be shown in £5k paybands as this was in the public interest.

Junior Spreadsheet – Payscale Minimum and Payscale Maximum - this information automatically completes when a junior grade is selected. The information is derived from the self created data list on the Junior Grades spreadsheet.

Structure - Spreadsheet

The workbook has seven spreadsheets:

- Reference (Units)
- Reference (Generic Job Titles)
- Reference (Junior Grades)
- Working (Senior Staff)
- Final (Senior Staff)
- Working (Junior Staff)
- Final (Junior Staff)

The first 3 reference spreadsheets are for organisations to create their own data lists on Units, Job Titles and Junior Grades

The remaining spreadsheets are for collating and entering information on both Senior and Junior staff.

The working spreadsheet is where information is initially collated and has no overall cross reference validation attached to it but there is general validation on each cell as to the format of the data it should contain. Once complete, the data is cut and paste across to the final spreadsheet where cross referencing data validation takes place.

Data Content

The following data is captured for each post/person employed within a central government organisation (the definition of this was defined by the Office for National Statistics).

Senior Posts (SCS2 and above)	SCS1	Junior Posts
Post Unique Reference	Post Unique Reference	
Name		
Equivalent SCS grade	Equivalent SCS grade	Grade
Job Title	Job Title	Generic Job Title
Job Description	Job Description	
Parent Department	Parent Department	Parent Department
Organisation	Organisation	Organisation
Unit	Unit	Unit
Contact Telephone Number	Generic Contact Telephone Number	
Contact Email	Generic Contact Email	
Unique reference of post it reports to	Unique reference of post it reports to	Unique reference of post they reports to
Total salary cost of directly reporting SCS1 and junior grade staff	Total cost of SCS1 post and its directly reporting junior posts	
Actual Pay floor		
Full time Equivalent value	Full time Equivalent value	FTE value of posts
Professional/Occupational Group	Professional/Occupational Group	Professional/Occupational Group
Additional notes	Additional Notes	

Data Content - Validation

There are two types of validation on the working and final spreadsheets.

On the working spreadsheet, there is individual cell formatting validation that checks whether the information entered is in the correct format. For example, in the 'telephone number' column, only numbers can be entered.

On the final spreadsheet, there is validation to ensure each cell contains data in the correct format but additionally validation is also included to check the cross referencing data the system will use to create the visualisation corresponds.

For example, the validation will check that the post unique reference in the 'Reports to Senior' column is a valid reference that is included in the 'post unique reference' column.

Data Content - Format and Content

Below is a breakdown of each cell of the format and content that is required:

Senior Staff Spreadsheet

Column	Format accepted	Description
Post Unique Reference	<ul style="list-style-type: none"> Free Text Mixture of numerical and letters accepted Cannot be XX No spaces allowed Dashes or hyphens can be used 	<ul style="list-style-type: none"> Individual reference code assigned to a post within an organisation. If a post is eliminated, the reference must be as well and not re-used If a person does not have a post but is still being paid by the organisation then '0' (zero) should be used Can only be duplicate for people that share a role
Name	<ul style="list-style-type: none"> Free text Cannot be blank If the name is not disclosed write 'N/D' If the post is vacant write 'vacant' If the post has been eliminated write 'eliminated' 	<ul style="list-style-type: none"> Potholder's name for SCS 2 and above Name not disclosed for SCS 1
Grade	Select from embedded drop down list	The equivalent SCS grade for the post
Job Title	<ul style="list-style-type: none"> Free Text Cannot be blank or 'N/D' If post reference is '0' write 'Not in post' 	<ul style="list-style-type: none"> The generic title for the grade, e.g. Permanent Secretary, Chief Executive, Director General, etc. The area of responsibility, e.g. Strategic Communications, Human Resources, Operations, etc.

Job/Team Function	<ul style="list-style-type: none"> • Free Text • Maximum 100 words • Cannot be left blank • If the post reference is '0', write 'N/A' 	<ul style="list-style-type: none"> • Short description of the core purpose of the job/team • Should not be a list of objectives • Meaningful to the taxpayer/user • Plain English, try to avoid using acronyms
Parent/Sponsor Department	Select from embedded drop down list	The full name of the parent or sponsor department
Organisation	<ul style="list-style-type: none"> • Free text • Non abbreviated • Cannot be blank 	Full name of organisation, this could be a repeat of the parent department or alternatively the name of an NDPB, Agency, etc.
Unit	Select from self created drop down list	An area/workstream name used within your organisation to define the different areas of the organisation, e.g. Human Resources, Corporate Services, Private Office Group. This should be defined at a level that best represents your organisational structure, e.g. DG or DD level
Contact Phone	<ul style="list-style-type: none"> • Free text • UK or international telephone number • Cannot be left blank • Can be a team telephone number • If post is vacant or eliminated write 'N/A' • If name has been withheld, then a group telephone number must be entered 	Contact telephone number for the postholder. This can include a group contact number instead of an individual's number.
Contact E-mail	<ul style="list-style-type: none"> • Free text • Departmental email address • Can be a group email address • Cannot be left blank • If post is vacant a group email can still be provided or alternatively write 'N/A' • If post is eliminated write 'N/A' • If name has been withheld, provide a group email address 	Contact email address for postholder, either an individual or group departmental email address.
Reports to Senior Post	<ul style="list-style-type: none"> • Must be valid post unique reference from organisation • Cannot be left blank • Can be numerical or letters • No spaces allowed 	<ul style="list-style-type: none"> • The corresponding unique post reference for the person the post/postholder reports to. • For the most senior person in the organisation this should be shown as

	<ul style="list-style-type: none"> Dashes and hyphens can be used XX can only appear once on the spreadsheet 	'XX'
Salary cost of reports	<ul style="list-style-type: none"> Free Text Numerical value Cannot be left blank If no reports then write '0' 	<ul style="list-style-type: none"> An accumulative total cost of SCS 1 staff and below that report to a post unique reference at SCS 1 level or above Staff costs should only be included in one group, i.e. this is not a cumulative total as you go up the hierarchy If an SCS 1 has a team of 5 staff or less, they should be rolled into a larger team within their reporting area or to a more senior member of staff. If an SCS 2 or above has a small team of 5 or less, these staff can be rolled into another within that particular reporting structure
FTE	Positive number up to 2 decimal places between 0.10 and 1.00	Indicates whether this is a full or part time post
Actual pay floor	<ul style="list-style-type: none"> Positive or zero number No decimal places Cannot be left blank If post is vacant, write '0' If SCS 1 post write 'N/D' 	<ul style="list-style-type: none"> The salary cost of an SCS 2 or above rounded down to the nearest 5000 SCS1 salary should not be disclosed
Actual pay ceiling	<ul style="list-style-type: none"> This box is automatically populated 	<ul style="list-style-type: none"> An automatically completed cell with pay ceiling based as £5k above figure entered as 'actual pay floor'
Professional/Occupational Group	<ul style="list-style-type: none"> Select from embedded drop down list Cannot be left blank 	<ul style="list-style-type: none"> A list of professional/occupational groups based on Professional Skills for Government standard CS professions This list cannot be amended You will need to select the closest description to the teams main function
Notes	<ul style="list-style-type: none"> Free text Can be left blank 	<p>Can be used to add additional supporting text to line detail, e.g.</p> <ul style="list-style-type: none"> Parent Dept paying part/all of a secondees salary Indicate parental leave Date a post was eliminated Date a post became vacant

		<ul style="list-style-type: none"> • Indicate a job share post • A previous role title if changed • A post has altered since last organogram due to split of duties or merger of posts • Additional duties held by a person that does not report to their normal line management • A small SCS team that has been reported within a larger team • Finish date of assignments for those that work on a project by project basis <p>There may be other instances where additional clarity will help read across from the current organogram to previous ones or from one department's organogram to another.</p>
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For Junior Staff

Cell	Format	Description
Parent/Sponsor Department	Select from embedded drop down list	The full name of the parent or sponsor department
Organisation	<ul style="list-style-type: none"> • Free text • Non abbreviated • Cannot be blank 	Full name of organisation, this could be a repeat of the parent department or alternatively the name of an NDPB, Agency, etc.
Unit	Select from self created drop down list	An area/workstream name used within your organisation to define the different areas of the organisation, e.g. Human Resources, Corporate Services, Private Office Group. This should be defined at a level that best represents your organisational structure, e.g. DG or DD level
Reports to Senior Post	<ul style="list-style-type: none"> • Must be valid post unique reference from SCS Data Sheet • Cannot be left blank • Can be numerical or letters 	<ul style="list-style-type: none"> • The corresponding unique post reference for the SCS person the junior posts reports to.

	<ul style="list-style-type: none"> • No spaces allowed • Dashes and hyphens can be used • XX cannot appear on the spreadsheet 	
Grade	Select from self created drop down list	The level of grade the posts carry
Payscale Minimum	Automatically completed from generic list compiled	The minimum salary of the particular grade payscale
Payscale Maximum	Automatically completed from generic list compiled	The maximum salary of the particular grade payscale
Generic Job Title	Select from self created drop down list	The generic job title for the particular grade.
Number of posts in FTE	<ul style="list-style-type: none"> • Numerical • Up to two decimal places allowed 	The number of posts, expressed in FTE, within the Unit that carry the particular grade and job title
Professional/Occupational Group	<ul style="list-style-type: none"> • Select from embedded drop down list • Cannot be left blank 	<ul style="list-style-type: none"> • A list of professional/occupational groups based on Professional Skills for Government standard CS professions • This list cannot be amended • You will need to select the closest description to the teams main function

Process

1. Complete the generic lists on Units, Job Titles and Junior Payscale
2. Complete the senior data on the working senior spreadsheet.
3. Complete the data on the junior working spreadsheet
4. Check and review all data and when accurate, copy and paste to Final Senior and Final Junior spreadsheet
5. When pasting, it is advised to paste special and select value

6. The last column of each final spreadsheet will show green if all data is in the correct format and cross referencing is correct.
7. If any of the cells in the final column are red, this indicates that there is an incorrect format or cross reference. The cell affected will be bordered in red.
8. Make any necessary changes and then the spreadsheet is complete and ready for uploading to the visualisation tool.

Visualisation Tool - Overview

The visualisation tool uses the data from the spreadsheet to create a visual representation of the organisation.

The UK visualisation used the senior grades and unique post references as the basis for the visualisation. The unique post reference also allowed the remaining detail to be attached to the correct post.

The tool uses a test website, that has a secure log in, to load the data and then it is published live on data.gov.uk once signed off.

In the test area, the system also creates a CSV file for both the Senior and Junior Final spreadsheets, and additionally creates a machine readable RDF file. The tool itself uses the RDF file to create the actual visualisation. The CSV files are to allow for re-use of the raw data and are posted on the departmental website alongside the URL link to the visualisation.

A visual guide to this process has also been produced.

Visualisation Tool - Process

1. In the Upload screen, enter a valid email address for the organisation
2. In Browse, select the completed spreadsheet from the files, or alternatively type in the valid path to the file
3. Select upload. The system will then upload the spreadsheet to create a preview visualisation.
4. The preview will automatically show if there are no errors in the spreadsheet.
5. The preview then needs to be reviewed and if content select sign off