



DoubleClick for Advertisers

DFA macros

The table and definitions below show the supported uses for each macro.

[What are DFA macros?](#)

Macro types

| Macro | Name | Works in: | | | | | | |
|-------|-------------------------|--------------------|----------------|---------------|---------------------------|---------------|------------|--------|
| | | Click-through URLs | Click trackers | Redirect URLs | Creative code (all types) | Frame headers | Floodlight | Mobile |
| %b | Base href macro | ✗ | ✗ | ✗ | ✗ | ✓ | ✗ | ✗ |
| %c | Click string macro | ✗ | ✗ | ✗ | ✓ | ✗ | ✗ | ✗ |
| %e | Expand macro | ✓ | ✓ | ✓ | ✓ | ✗ | ✗ | ✗ |
| %g | Geographic data macro | ✓ | ✗ | ✓ | ✓ | ✗ | ✗ | ✗ |
| %h | Creative server macro | ✗ | ✗ | ✗ | ✓ | ✗ | ✗ | ✗ |
| %i | Impression macro | ✓ | ✗ | ✗ | ✓ | ✗ | ✗ | ✗ |
| %k | Keyword value macro | ✓ | ✗ | ✓ | ✓ | ✓ | ✗ | ✗ |
| %m | Match code macro | ✓ | ✓ | ✓ | ✓ | ✗ | ✗ | ✓ |
| %n | Random number macro | ✓ | ✓ | ✓ | ✓ | ✗ | ✓ | ✗ |
| %p | Pattern match macro | ✓ | ✗ | ✓ | ✓ | ✓ | ✓ | ✗ |
| %s | Site name macro | ✓ | ✓ | ✓ | ✓ | ✗ | ✓ | ✗ |
| %u | Click-through URL macro | ✗ | ✗ | ✗ | ✓ | ✗ | ✗ | ✗ |

Tips

- DFA macros are case-sensitive. Always type them in lowercase. For example, %b is a valid macro, while %B is not a valid macro.

- You may use separators between macros if you wish, but it isn't necessary. If you do want to use separators, use a comma (,) or a pipe (|). Avoid using other separators unless you're an experienced trafficker, as some can cause problems if used in the wrong context.
- To implement macros in click-through URLs or third-party tracking pixels, try the [DoubleClick Support Macro Builder](#) tool.

Macro definitions

This section defines each DFA macro.

%b Base href macro

The %b macro expands to the base href, which sets a base URL for all relative links on a page.

A base href is the main part of a URL. It's the "base" for different pages on the same website. For example, these three URLs all have the same base href:

- support.google.com/accounts
- support.google.com/docs
- support.google.com/mail

When you click from the main page to the docs page or the accounts page, the first part of the URL (support.google.com) doesn't change. That's the base href.

Once you set a base href, the browser uses it to follow links on a page. For example, if the base href on a site is www.google.com, then all relative links on the site use www.google.com as the base: a link to /doubleclick points the user's browser to www.google.com/doubleclick. Likewise, a browser only needs the last part of an ad request or click-through URL if the base href of the link is already set with the %b macro.

You can set the base href for multiple tags, ad requests, click-through URLs, or other links by inserting the %b into the frame header. Only insert this macro into frame headers.

%c Click string macro

The %c macro expands into the click string of a click-through URL. When a user clicks on a creative, the click string redirects the user through the DFA ad servers. This allows DFA to track when users click on creatives.

Here's an example of a click string:

```
http://ad.doubleclick.net/click;361119;0-8388608;2;321977;1-468|60;0|0|0;;?
```

To add a click string to the click-through URL of a creative, position the %c macro at the beginning of the click-through URL, as in this click-through URL:

```
%chttp%3A%2F%2Fwww.doubleclick.com%2Fpath%2Fpage.html
```

When an ad server serves a creative, the %c macro expands into the click string. Here is an example of how the above click-through URL might look after the %c macro at the beginning expands:

```
http://ad.doubleclick.net
/click;361119;0-8388608;2;321977;1-468|60;0|0|0;;?http%3A%2F
%2Fwww.doubleclick.com%2Fpath%2Fpage.html
```

You can see the %c has expanded into the click string at the beginning of the click-through URL, forming a complete creative URL.

To insert the whole creative URL at once, combine the %c macro (click string) with the %u macro (click-through URL): . The two macros expand into the complete creative URL.

For example, if you insert into the HTML code, it might expand to:

```
<a href=http://ad.doubleclick.net/click;361119;0-8388608;2;321977;1-468|60;
0|0|0;;?http%3A%2F%2Fwww.doubleclick.com%2Fpath%2Fpage.html>
```

When %u expands into a click-through URL, any other macros in the click-through URL automatically expand as well, including the %c macro.

%e Expand macro

The %e macro expands into the ID number for various properties of a creative. Insert an **accessor** after the macro to determine which ID number the macro expands into, and thus which creative property to track. See the list of accessors below.

You can use match tables to define these ID numbers and associate creative properties with them: the ID numbers are linked to the descriptions in DFA (and in your own backend database). These ID numbers can help you track different properties of your creatives through the DFA ad servers.

Here are the accessors that determine which ID the macro expands into. Note that in these examples the %e macro always comes before the accessor.

- **%eaid!**: Expands to the ID of the ad served.
- **%eadv!**: Expands to the advertiser ID associated with the ad served.
- **%ebuy!**: Expands to the campaign ID associated with the ad served.
- **%ecid!**: Expands to the ID of the creative served.

- **%ekid!:** Expands to an internal ID number used to identify a key-value pair that was targeted by the ad and that was matched when the ad was served.
- **%epid!:** Expands to the ID of the placement to which the ad was served.
- **%erv!:** Expands to the rendering version of the creative and changes whenever the rendering version is modified.
- **%eenv!:** Expands to the **environmental character**. The environmental character is a one-letter code for the DFA ad tag used to request the ad that is served. The letter that codes the environmental character is the same as the third letter in the DFA ad tag (i.e., it is the letter that follows `ad`). However, the environmental character for a standard ad tag is just a slash (/), not a letter. See examples below.
 - / identifies `ad` (standard) tags
 - `f` identifies `adf` (frame) tags
 - `i` identifies `adi` (iframe) tags
 - `j` identifies `adj` (JavaScript) tags
 - `l` identifies `adl` (iframe/layer) tags
 - `x` identifies `adx` (XML) tags
- **%esid!:** Expands to the site ID associated with the ad placement.
- **%erid!:** Expands to the rendering ID. This macro is used internally in DFA and corresponds directly to a creative ID. For debugging, the rendering ID is preferable to the creative ID provided by the `%ecid!` macro, as the rendering ID is the lowest-level database object. Note that click trackers don't have rendering IDs; if this macro is used with a click tracker, the expanded value is 0.

There is no limit to the number of `%e` macros a click-through URL can contain. Here is an example of a click-through URL with three `e%` macros:

```
http://www.site.com/?concept=%eaid!%epid!%esid!&zip=80201
```

- Under normal settings, the `%e` macro can't be used for click trackers running on a DFP site. On a DFP site, properties such as the site name or advertiser ID expand with DFP values, not DFA values. [Learn more.](#)
- The `%e` macro isn't supported for use in click-through URLs for mobile placements. It may cause errors if used in this context.

%g Geographic data macro

The %g macro provides geographic information related to an ad request. It can be used to dynamically reflect the location of users in standard, custom, and Rich Media creatives. The %g macro expands with a string of key-values for information such as country abbreviation, state abbreviation, city, postal code, Designated Market Area® Region, and Internet connection bandwidth. This information comes back to you through the DFA ad servers.

For example, %g might expand to the following for a user located in New York City:

```
ct=US&st=NY&ac=212&zp=10001&bw=4&dma=3&city=13275
```

%h Creative server macro

The %h macro expands into the host name of the server that serves a creative. This eliminates the need to hard-code the host name into your tag. The host name varies and the macro expands dynamically for each creative.

Add the macro to the beginning of the URL in your tag, such as in this image tag:

```
<img src=%h/123456/image.gif>
```

You should always use the %h macro with creatives hosted by DFA.

%i Impression macro

The %i macro expands into an impression string. The impression string allows the DFA ad server to track impressions for an interstitial ad at impression time.

Add the %i macro at the beginning of the URL in your tag, as in this example:

```

```

The %i macro must be used in all interstitial ads, as it enables the DFA ad server to track when an interstitial impression is actually served. Only insert the %i macro once into the code of an interstitial ad. Multiple statements of the macro will result in an inaccurate record of impressions.

DFA automatically inserts the %i macro into creative code when you use templates to create an interstitial ad.

%k Keyword macro

The %k macro expands into a substring found in the ad tags (specifically, in the request URL). You can use this

macro to display user-entered keywords in creatives.

This macro is also useful to multiple keyword buys: it expands into any one of multiple keywords for the same creative, depending on which keyword the user enters. For example, consider how the `%k` macro helps an advertiser with a keyword buy for both `car insurance` and `car loans`. When a user searches for `car insurance`, the creative with that macro displays *Click Here for Car Insurance*; when a user searches for `car loans`, the same creative displays *Click Here for Car Loans*.

Use a key-value pair to designate which substring the macro expands into. A key-value pair consists of two key-values, a `start_key_string` value and an `end_character` value.

[start_key_string]: The key portion of a key-value pair. It must be included in the ad tags. Note that the `[start_key_string]` is case-sensitive.

[end_character]: The character used to signify the end of a key-value. If an end character is not indicated, and the `start_key_string` is the last key-value in a tag, the ad server copies the entire string.

Insert your macro and key-value pair in the following order: the macro, then the first value, then an exclamation point (!), and finally the second value. The format looks as follows:

```
%p[start_key_string]![end_character]
```

The `%k` macro captures a substring designated by these parameters: it finds the keyword you designate and expands the macro into it. You can insert the key-value pair in an `ad` DFA tag or a `jump` DFA tag.

If the `start_key_string` is the last key-value in the tag, the `end_character` is not necessary, and so in this case it isn't indicated in an `ad` or `jump` tag. Instead the ad server copies the entire string.

Another use of the `%k` macro is to unescape escaped characters. When the macro passes a substring to the HTML of a creative, all of the escaped characters within the captured substring are automatically converted back to their original character sets. For example:

```
src="http://ad.doubleclick.net/adi/av.digital.com/result_front;  
kw=car+wash;cat=stext;ord=58822720
```

To display "car wash" in the creative, you must decode the escaped character "+". So the advertiser embeds `%k` in the creative's code. The ad server captures the substring `kw=car+insurance`, decodes the + character, and displays it as *car insurance* in the creative.

Now the code looks like this:

```
<a href=http://www.car.com>Click Here for %kkw=!;</a>
```

A note on `%k` and `%p` macros: The two macros are similar in that they both capture a substring designated by the

`start_key_string`, but the two macros differ in how they pass the substring. Whereas the `%k` macro passes the substring to the HTML of a creative, the `%p` macro passes the substring to the URL. Unlike the `%p` macro, the `%k` macro only works within a creative's HTML code.

%m Match code macro

The `%m` macro expands into a user's DoubleClick cookie value when the user clicks on the creative. One use of this macro is to generate a list of user IDs and then retarget users who have previously responded to the creative.

You can insert the macro into the click-through URL, the redirect URL, the creative code, or a hard-coded click tracker such as `ad.doubleclick.net/clk`. (The DoubleClick cookie value is a 64-bit integer with a maximum of 20 characters.)

Ad servers expand the `%m` macro in the click string that follows a click event; they do not expand the macro within a creative.

- If a user disables cookies for their browser or has opted out of cookies, the ad server expands `%m` to 0.
- In creative code, the `%m` macro does not take effect for browsers that are behind a proxy. In this case the ad server also expands `%m` to 0.

%n Random number macro

The `%n` expands into a random number. Random numbers keep browsers from caching a URL: when the ad serves, the ad servers dynamically generate a random number and append it to the URL in place of `%n`. Because there is a new random number in the URL each time the ad serves, the browser can't load a cached version of the ad. When you defeat caching, you prevent third-party servers from undercounting impressions.

The `%n` macro is often used on the publisher side when DoubleClick must redirect to a third party for a creative. Third parties typically have their own random number syntax, similar to DFA's `ord=[random_number]?`.

The `%n` macro also enables third parties to track clicks. Because each user click expands a unique random number in place of the `%n` macro, third parties can track each click separately. Traffickers should confirm with the third party that they support the additional character string that the macro expands into.

%p Pattern match macro

The `%p` macro expands into a substring found in the ad tags (specifically, in the request URL). Typically the `%p` macro is used to expand into a keyword that helps track reporting information. You can designate which substring the macro expands into: the DFA ad server searches for that type of substring when the ad serves, and the `%p` macro expands into the particular substring found in the site's tags.

For example, the tags on a publisher's site might include a keyword (in a substring) that corresponds to a specific city. You can instruct the ad server to expand the `%p` macro into the particular city keyword in the tags on any site where the ad serves.

The substring you designate can include keywords that provide information on cost, category, location, or any

other data you might want to use for targeting or reporting. The information comes back to you through the DFA ad servers. You can track it with your own backend reporting system.

Use a key-value pair to define the beginning and end of the type of substring you wish the server to search for. A key-value pair consists of two key-values, a `start_key_string` value and an `end_character` value.

[start_key_string]: The key portion of a key-value pair. It must be included in the ad tags. Note that the `[start_key_string]` is case-sensitive.

[end_character]: The character used to signify the end of a key-value. If an end character is not indicated, and the `start_key_string` is the last key-value in a tag, the ad server copies the entire string.

You can enter each value as any string of ASCII values. The value should also be at least two characters in length.

Insert your macro and key-value pair in the following order: the macro, then the first value, then an exclamation point (!), and finally the second value. The format looks as follows:

```
%p[start_key_string]![end_character]
```

For example, the following ad tag includes a substring for a city that corresponds to the keyword 119:

```
http://ad.doubleclick.net/ad/sitename/pagename;city=119;  
ord=12323
```

With a key-value pair, you can tell the DFA ad server to find the city keyword in the ad tag and expand the `%p` macro into that value. Here are two applications of this macro:

- If you insert the macro into a click-through URL, it will expand to 119 when users visit a site with ad tags that include the substring `city=119` in the request URL. Tags with different city keywords will change the click-through URL.
- If you insert the macro into a redirect URL, you can track ad clicks by city keyword. The redirect URL will pass the city keyword found in the request URL in the tags back to you.

Let's look at the click-through URL application as an example of formatting. To add the macro to a click-through URL, enter the `%p` macro, then `city=` as the `start_key_string`, then an exclamation point (!), and finally a semicolon (;) as the `end_character`:

```
http://www.site.com/asp?city=%pcity=!;
```

The ad server expands the macro to 119:

```
http://www.site.com/asp?city=119
```


%s Site name macro

The %s macro expands into the DFA site name: when a user clicks on an ad served by DFA, this macro expands into the name of the site to which the ad was served.

For example, consider this URL, which includes an %s macro at the end:

```
http://www.advertiser.com/cgi.bin/?%s
```

If that URL is included in an ad served to a site called `i.like.sandwiches`, then when the user clicks the ad, the macro expands to `i.like.sandwiches`:

```
http://www.advertiser.com/cgi.bin/?i.like.sandwiches
```

If site info is not available in real time, %s may expand to an empty string.

Under normal settings, the %s macro can't be used for click trackers running on a DFP site. On a DFP site, properties such as the site name or advertiser ID expand with DFP values, not DFA values. [Learn more](#)

%u Click-through URL macro

The %u macro expands into the click-through URL of a creative. For example, `` might expand into the following click-through URL:

```
<a href="http://www.adv.com/promo/?%pid=id;!;&%esid!&sc=dclk">
```

To insert the whole creative URL at once, combine the %u macro with the %c macro. The two macros expand into the entire URL: %c (click string) + %u (click-through URL) = a complete creative URL. For example, if you insert `` into the HTML code, it might expand to:

```
http://ad.doubleclick.net  
/click;361119;0-8388608;2;321977;1-468|60;0|0|0;;?http%3A%2F  
%2Fwww.doubleclick.com%2Fpath%2Fpage.html
```

When %u expands into a click-through URL, any other macros in the click-through URL automatically expand as well.

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