

NAME

Xau library: XauFileName, XauReadAuth, XauLockAuth, XauUnlockAuth, XauWriteAuth, XauDisposeAuth, XauGetAuthByAddr, XauGetBestAuthByAddr – X authority database routines

SYNOPSIS

```
#include <X11/Xauth.h>

typedef struct xauth {
    unsigned short  family;
    unsigned short  address_length;
    char            *address;
    unsigned short  number_length;
    char            *number;
    unsigned short  name_length;
    char            *name;
    unsigned short  data_length;
    char            *data;
} Xauth;

char *XauFileName (void);

Xauth *XauReadAuth (FILE *auth_file);

int XauWriteAuth (FILE *auth_file, Xauth *auth);

Xauth *XauGetAuthByAddr (unsigned short family, unsigned short
    address_length, const char *address, unsigned short
    number_length, const char *number, unsigned short
    name_length, const char *name);

Xauth *XauGetBestAuthByAddr (unsigned short family, unsigned short
    address_length, const char *address, unsigned short
    number_length, const char *number, int types_length,
    char **types, const int *type_lengths);

int XauLockAuth (const char *file_name, int retries, int
    timeout, long dead);

int XauUnlockAuth (const char *file_name);

int XauDisposeAuth (Xauth *auth);
```

DESCRIPTION

XauFileName generates the default authorization file name by first checking the XAUTHORITY environment variable if set, else it returns \$HOME/.Xauthority. This name is statically allocated and should not be freed.

XauReadAuth reads the next entry from *auth_file*. The entry is **not** statically allocated and should be freed by calling *XauDisposeAuth*.

XauWriteAuth writes an authorization entry to *auth_file*. It returns 1 on success, 0 on failure.

XauGetAuthByAddr searches for an entry which matches the given network address/display number pair. The entry is **not** statically allocated and should be freed by calling *XauDisposeAuth*.

XauGetBestAuthByAddr is similar to **XauGetAuthByAddr**, except that a list of acceptable authentication methods is specified. Xau will choose the file entry which matches the earliest entry in this list (e.g., the most secure authentication method). The *types* argument is an array of strings, one string for each authentication method. *types_length* specifies how many elements are in the *types* array. *types_lengths* is an array of integers representing the length of each string.

XauLockAuth does the work necessary to synchronously update an authorization file. First it makes two file names, one with “-c” appended to *file_name*, the other with “-l” appended. If the “-c” file already

exists and is more than *dead* seconds old, *XauLockAuth* removes it and the associated “-l” file. To prevent possible synchronization troubles with NFS, a *dead* value of zero forces the files to be removed. *XauLockAuth* makes *retries* attempts to create and link the file names, pausing *timeout* seconds between each attempt. *XauLockAuth* returns a collection of values depending on the results:

LOCK_ERROR

A system error occurred, either a *file_name* which is too long, or an unexpected failure from a system call. *errno* may prove useful.

LOCK_TIMEOUT

retries attempts failed

LOCK_SUCCESS

The lock succeeded.

XauUnlockAuth undoes the work of *XauLockAuth* by unlinking both the “-c” and “-l” file names.

XauDisposeAuth frees storage allocated to hold an authorization entry.

SEE ALSO

xauth(1), xdm(1)

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