# UriParser Class

A simple templated class for parsing URI strings into their component parts.

## Remarks

The UriParser class parses the input string on construction and exposes public members pointing to the beginning and after last characters for each portion of the URI string as defined in the standard;

<https://tools.ietf.org/html/rfc3986>

The UriParser is not a complete implementation of the standard, it is designed to simply separate out the scheme, authority, user name, password, host, port, path, query and fragment parts of an incoming URI. Note that the UriParser does not perform the reference resolution functionality of the standard and it does not include any percent encoding or decoding functionality.

The UriParser class also includes public get functions which convert the public pointers to strings for further use.

The UriParser class is designed to use the template combinations of <char,string> and <wchar\_t,wstring>.

## Public Methods

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| **Method** | **Description** |
| UriParser(stringType &in\_uri) | A string/wstring type constructor, which initiates the URI parsing. Will throw exceptions. |
| UriParser(charType \*in\_uri) | As above except pointer to the char or wchar\_t concrete types. |
| void resetUriParser(stringType &in\_uri) | Resets the string input and reparses the new input string. |
| void resetUriParser(charType \*in\_uri) | As above. |
| stringType getScheme() const | Returns the string/wstring of the parsed scheme. Evaluated each call and converted to lower case. |
| stringType getHost() const | As above, except returns the host. |
| stringType getAuthority() const | Returns the string/wstring of the parsed authority, evaluated each call. |
| stringType getUsername() const | Returns the string/wstring of the parsed user name, evaluated each call. |
| stringType getPassword() const | Returns the string/wstring of the parsed password, evaluated each call. |
| stringType getPort() const | Returns the string/wstring of the parsed port, evaluated each call. |
| stringType getPath() const | Returns the string/wstring of the parsed path, evaluated each call. |
| stringType getQuery() const | Returns the string/wstring of the parsed query, evaluated each call. |
| stringType getFragment() const | Returns the string/wstring of the parsed fragment, evaluated each call. |

## Public Methods

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| **Method** | **Description** |
| charType \*uriInput | A char/wchar\_t pointer to the parsed string. |
| UriSegment<charType> scheme | Contains two char/wchar\_t pointers, one pointing to the beginning character for the scheme and the other pointing after last character of the scheme. If no scheme is present both pointers will be NULL. |
| UriSegment<charType> authority | As above, except pointing to the authority part. |
| UriSegment<charType> username | As above, except pointing to the user name part. |
| UriSegment<charType> password | As above, except pointing to the password part. |
| UriSegment<charType> host | As above, except pointing to the host part. |
| UriSegment<charType> port | As above, except pointing to the port part. |
| UriSegment<charType> path | As above, except pointing to the path part. |
| UriSegment<charType> query | As above, except pointing to the query part. |
| UriSegment<charType> fragment | As above, except pointing to the fragment part. |

## Exceptions

The UriParser class will throw an exception on receipt of a null string. It will also throw an exception when a malformed URI is found, with the location of the error relative to the start of the input string returned in the exception description.