



INTERACTIVE INTELLIGENCE®

**MARKETPLACE**

## IPA Utilities

Version 1.0  
for Interaction Center™ 4.0

...

## Installation Guide

Version 1.0  
Developer: Interactive Intelligence

**IPA Utilities**  
**Interactive Intelligence™ MarketPlace™**  
**Template Installation Guide**

**Source Updates**

<http://marketplace.inin.com/...>

**Contacts**

Developer: Interactive Intelligence

Support: Interactive Intelligence

Customization: Professional Services

**Version**

Guide Template: 1.0

Solution Revision: 1.0

Refer to MarketPlace.inin.com for notices and documentation updates. Participate in the template community; rate and review IPA Utilities for feature requests and further enhancements.

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## **IPA Utilities**

### **General Guidelines**

This document details important information to provide the most value from your Interactive Intelligence MarketPlace solution. In total, the instructions enable core functionality and interoperability of the full purchased features and capabilities. The installation procedures are very important to achieve successful and expected operation.

**Note:** Carefully troubleshoot any reported or logged errors in association with the following procedures. You may refer to the contacts listed on the first page for further assistance.

Check the [MarketPlace.inin.com](http://MarketPlace.inin.com) website for updates and complementary information.

The next page displays a list of components and procedure page references. The checked items are included in the IPA Utilities solution. Each checked component may detail skills and access levels that require cooperation with other members of your team or organization. As you manage the install and deployment procedures, ensure that individual efforts and settings are coordinated and properly cross-referenced.

## IPA Utilities Component List

Refer to the referenced procedure page numbers for each of the checked (☑) components included in the IPA Utilities solution.

Component	Procedure
<input type="checkbox"/> Database	Page 3
<input type="checkbox"/> File System	4
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<input type="checkbox"/> Structured Parameters	6
<input type="checkbox"/> Handlers	7
<input type="checkbox"/> Interaction Administrator	8
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<input checked="" type="checkbox"/> Web Services	10
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The following pages explain how to install and configure each of the relevant components. Refer to the IPA Utilities downloadable package from [MarketPlace.inin.com](http://MarketPlace.inin.com) for each of the mentioned files. You may need to extract files using a .ZIP-compatible decompression utility.

Estimated Time: 1 hour

After installation, refer to the IPA Utilities user guide and supplementary materials for use and training information.

## Database

Necessary Skills: Structured query language (SQL)  
Access Requirements: Database administrator (DBA) account  
Estimated Time: Not applicable to this solution

The provided .SQL script configures database objects for the IPA Utilities. Refer to script comments for detailed instructions, parameters and customizations.

Execute the script from a within a SQL development environment or an interactive command shell. Troubleshoot any reported errors before continuing.

## Manual Customizations

(No manual customization is required at this time.)

## **File System**

Necessary Skills: Client-server file storage and access concepts, and configuration experience

Access Requirements: Networked file storage, grant user/group access to shared files

Estimated Time: Not applicable to this solution

During operation, IPA Utilities refers to one or more file storage locations for storing or retrieving content.

Copy additional bundled documents, templates, and folders to an accessible location while preserving their relative hierarchical structure. To provide shared network access to client workstations, create a dedicated file share for the files. Record the networked file location for future reference during the installation procedure.

## **Manual Customizations**

(No manual customization is required at this time.)

## IP Tables

Necessary Skills: Certified Interaction Center Administrator or equivalent experience  
Access Requirements: Interaction Administrator application and IC administrator account  
Estimated Time: Not applicable to this solution

Interaction Processor (IP) tables are packaged as .I3TABLEEX files. The files provide access to structured tabular data.

To import the file(s), observe the following instructions:

1. Launch the Interaction Administrator application.
2. From Interaction Administrator's navigation tree, access System Configuration | Interaction Processor | Tables.
3. From the "File" or context menu, select "New." An empty table editor window will appear.
4. From the table editor window's "File" menu, select "Import Table..." The "Open" file dialog will appear.
5. From the "Open" dialog, browse to the .I3TABLEEX file location, and select the file to import.
6. With the file selected, click "Open." The editor will display the imported table.
7. Repeat for any additional .I3TABLEEX files.

## Manual Customizations

After importing the IP table(s) into Interaction Administrator, customize the data values accordingly. Within the Interaction Administrator application, open each IP table mentioned below to review and customize data values for your operating environment.

(No manual customization is required at this time.)

**Notice:** While components of IPA Utilities are in use, IP tables and data must meet the exact specifications of the solution. During runtime, tables and values are interpreted literally; unauthorized changes could cause undesired results. Before performing additional manual modifications, refer to the IPA Utilities user guide for specific configuration options and instructions.

## Structured Parameters

Necessary Skills: Certified Interaction Administrator or equivalent experience

Access Requirements: IC & Windows Server administrator account(s)

Estimated Time: Not applicable to this solution

Structured parameters enable customizable settings and dynamic configuration. Structured parameter settings are stored in .XML files along with the IPA Utilities solution.

To apply the settings, refer to the following procedure:

1. Open DSEditU.exe from the Interaction Center server's desktop using the "Run" (Win + R) dialog, or from a similar command line interface. (By default, a "DS Edit" does not appear in the "Interactive Intelligence" program group of the Windows Start Menu.)
2. Navigate through the directory services hierarchy to  
"`\CustomerSite\Production\<SERVERNAME>\Structured Parameters.`"
3. From the "File" menu, select "Import..." The "Open" file dialog will appear.
4. From the "Open" dialog, browse to the solution's structured parameter .XML file location, and select the file to import.
5. With the file selected, click "Open." The DS Edit utility's display will update to show the imported structured parameter settings within the "Structured Parameters" settings container.
6. Repeat for any additional structured parameter .XML files

## Manual Customizations

After importing the structured parameter(s) into Interaction Administrator, customize the data values accordingly. Within the Interaction Administrator application, open each parameter mentioned below to review and customize data values for your operating environment.

(No manual customization is required at this time.)

**Notice:** While components of IPA Utilities are in use, structured parameter names and values must meet the exact specifications of the solution. During runtime, parameters and values are interpreted literally; unauthorized changes could cause undesired results. Before performing additional manual modifications, refer to the IPA Utilities user guide for specific configuration options and instructions.



## Handlers

Necessary Skills: Certified Interaction Center Handler Developer or equivalent experience

Access Requirements: Access and rights to open, modify, and publish handlers

Estimated Time: Not applicable to this solution

Certain Handlers extend the functionality of the IPA Utilities solution. Refer to the included .IHD file(s).

To copy and activate the handler(s), perform these steps on the IC Server:

1. Copy .IHD files to "...\\I3\\IC\\Handlers\\Custom\\"
2. Open each copied handler file in the locally-installed Interaction Designer application.
3. Using Interaction Designer's toolbar or "File" menu, proceed to publish the handlers.
4. Close Interaction Designer.
5. Verify the handler publication in Interaction Administrator: System Configuration | Interaction Processor | Handlers.

## Manual Customizations

(No manual customization is required at this time.)

## Interaction Administrator

Necessary Skills: Certified Interaction Administrator or equivalent experience

Access Requirements: Interaction Administrator application and IC administrator account

Estimated Time: Not applicable to this solution

Some manual configuration may be necessary to ensure optimal compatibility with your operating environment. Please observe the following instructions. You may need to cross-reference other installation procedures to ensure that related names and values match.

An outline of manual configuration necessary within the Interaction Administrator application appears below:

(No manual customization is required at this time.)

**See Usage Guide at end for configuration Instructions.**

## Web Applications

Necessary Skills: Webmaster or web server administrator

Access Requirements: Rights to publish and test a custom web application on the network

Estimated Time: Not applicable to this solution

Web applications extend the capabilities and accessibility of IPA Utilities to a broader user base for data input, output, and interactivity. IPA Utilities relies on consistent, available access to a web server.

The following instructions generally guide the web application setup process:

1. Copy the web application folder to a URL-accessible location on the web server.
2. Publish and deploy the application.
3. Browse the application's root path to verify display and availability of content.

## Web Services

Necessary Skills: Networked application setup and configuration

Access Requirements: Windows, IC Server, database, and network/firewall administration

Estimated Time: 30 minutes

Bundled web services provide a critical integration point for the IPA Utilities. The service must be installed on both IC servers using the following instructions.

1. Copy the files from the "ININ.MarketPlace.IPA\_Uutilities" zip file to your IC Server, preferably "D:\I3\ ININ.MarketPlace.IPA\_Uutilities"
2. From the folder, launch the "ININ.MarketPlace.IPA\_Uutilities" utility application.
3. Reference the table below to configure settings and values for use with the IPA Utilities.
4. Click the "Install Service" button. The status text will report that the service is installed.
5. Click the "Start Service" button. The status text will report that the service is started.
6. Repeat the above steps on the switchover server. NOTE: You must not simply copy the directory from one server to another. Password values are encrypted and tied, among other things to the current machine.

### IPA Helper Service Settings

Application Setting	Value	Notes
dbName	DB Name (The name of the database, not the server name itself)	Default is IC
dbServer	FQDN of SQL Server	
dbUser	Database User ID	With rights to DB
dbPwd	Secure password	DB password for the user specified in dbUser
dbAuth	Trusted or Standard	Trusted will use Windows credentials and ignore the dbUser/dbPwd values.
SessionManager_Host	IC Server FQDN or off-server session manager	
SessionManager_UserID	IC User ID	
SessionManager_PWD	IC PWD	

baseAddress	<a href="http://localhost:12210/ININ/MarketPlace/IPA_Uilities">http://localhost:12210/ININ/MarketPlace/IPA_Uilities</a>	If you modify this value, you will have to update the process
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## IPA Processes

Necessary Skills: Familiarity importing processes into Interaction Process Automation Designer  
Access Requirements: Access to Process Automation Designer and rights to publish processes  
Estimated Time: 15 minutes

Interaction Process Automation (IPA) processes coordinate many aspects of a template solution's functionality. One or more process automation archive (.PAA) files may be included, as indicated below.

Interactions 2013

Interactions 2013 - Eventing

Starting from the first file in the above list, import and publish the process(es) in the Process Designer workspace of the IC System Manager application. The file and process operations are accessible from the application's "File" menu. When finished, the processes will indicate their published status.

<none>

To import the template, from designer, go to "File, New Process". Choose the import template link and import the template. Give your process a name "TCPA Collections" and choose OK. Publish it.

## Usage Guide

For a demonstration of concepts, please see the processes. Make sure both are published and then run "Interactions 2013"

## Web Services Usage Guide

### Referencing Web Service

From IC Server Manager on the CIC server, add a web service operation and bind it to the WSDL of [http://localhost:12210/ININ/MarketPlace/IPA\\_Uutilities?wsdl](http://localhost:12210/ININ/MarketPlace/IPA_Uutilities?wsdl). From there, you will have options for operations. They are

*GetServerName:*

Inputs:           None

Outputs:          GetServerNameResult (The name of the server the webservice is running on) In a default installation, this should also be the primary CIC server.

### *launchProcess*

Inputs:

- processName – the name of the process to launch
- server – the FQDN of the IC session manager (leave blank to pull value from config file)
- ininUser – the IC user ID to use when connecting to session manager (leave blank to pull value from the config file)
- ininPassword – the IC user PWD to use when connecting to session manager (leave blank to pull value from the config file)
- names – array of string values containing the names of variables in the process to start (note: these variables must be marked as input or input / output)
- values – array of string values containing the values of variables (parallel list to names)

Format for values:

Boolean - A boolean can be any of the following values: true, false, 1, 0

Date - A date must be in the following format: YYYY-MM-DD[Z](+|-)hh:mm] where YYYY = 4 digit year, MM = 2 digit month, DD = 2 digit day, hh = 2 digit hour offset and mm = 2 digit minute offset. YYYY-MM-DD represents the year, month and day portion of the date. [Z](+|-)hh:mm] represents the offset of the date from universal coordinated time. If no offset is specified the timezone for this date will be set to the timezone of the IC server. Otherwise the offset will be applied and the timezone will be changed to universal coordinated time. The date must be between 1800-1-1 and 2200-12-31. For example: 2001-10-26, 2001-10-26+02:00, 2001-10-26Z, 2001-10-26+00:00

DateTime - A datetime must be in the following format: YYYY-MM-DDThh:mm:ss[Z](+|-)hh:mm] where YYYY = 4 digit year, MM = 2 digit month, DD = 2 digit day, hh = 2 digit hour, mm = 2 digit minute and ss = 2 digit second. YYYY-MM-DDThh:mm:ss represents the year, month, day, hour, minute and second portion of the date time. T is a separator indicating where the time portion starts. [Z](+|-)hh:mm] represents the offset of the date time from universal coordinated time. If no offset is specified the timezone for this datetime will be set to the timezone of the IC server. Otherwise the offset will be applied and the timezone will be changed to universal coordinated time. The date time must be between 1800-1-1T00:00:00 and 2200-12-31T23:59:59. For example: 2001-10-26T21:32:52, 2001-10-26T21:32:52+02:00, 2001-10-26T19:32:52Z, 2001-10-26T19:32:52+00:00, or 2001-10-26T21:32:52.12679

Decimal - A decimal must have a value consisting of a mantissa followed, optionally, by the character "E" or "e", followed by an exponent. The exponent must be an integer. The mantissa must be a decimal number. The representations for exponent and mantissa must follow the rules for integer and decimal. If the "E" or "e" and the following exponent are omitted, an exponent value of 0 is assumed. The value space of a decimal consists of the values  $m \times 2^e$ , where  $m$  is an integer whose absolute value is less than  $2^{53}$ , and  $e$  is an integer between -1075 and



970, inclusive. For example: 6.2, -1E4, 1267.43233E12, 12.78e-2, 12, and 0 are all legal values for a decimal.

Duration - A duration must be in the following format: "(-)PnDTnHnMnS" where P indicates the period, nD the number of days, T indicates the start of the time section, nH the number of hours, nM the number of minutes and nS the number of seconds. Numeric components in the string like 'nD' that represent the number of days will not be returned if n equals 0. The minus sign will be present if the duration is negative. Note: nS may include fractional seconds. For example: PT1004199059S, PT130S, PT2M10S, P1DT2S, or P3DT5H20M30.123S

Integer - An integer must be a number between 9223372036854775807 and -9223372036854775808 inclusive. For example: -1, 0, 12678967543233, 100000

Mailbox - A mailbox must contain two parts. The part before the @ sign is the local-part of the address, often the username of the recipient (jsmith), and the part after the @ sign is the domain which is a hostname to which the e-mail message will be sent (example.com). For example: Info@ININ.com, jsmith@example.com

Skill - A skill is a string that matches an existing skill name in Interaction Administrator. For example: Spanish, English

String - A string is a finite-length sequence of characters. For example: Hello World!

Time - A time must be in the following format: hh:mm:ss[Z](+|-)hh:mm] where hh = 2 digit hour, mm = 2 digit minute and ss = 2 digit second. hh:mm:ss represents the hour, minute and second portion of the time. [Z](+|-)hh:mm] represents the offset of the time from universal coordinated time. If no offset is specified the timezone for this datetime will be set to the timezone of the IC server. Otherwise the offset will be applied and the timezone will be changed to universal coordinated time. For example: 21:32:52, 21:32:52+02:00, 19:32:52Z, 19:32:52+00:00, and 21:32:52.12679.

User - A user is a string that matches an existing user name in Interaction Administrator. For example: admin

Workgroup - A workgroup is a string that matches an existing workgroup name in Interaction Administrator. For example: Support

Outputs:        launchProcessResult – error message or string containing the process ID of the process that was successfully started

*le\_CreateHistoricalView, le\_GetFields, le\_GetProcesses, le\_read\_EventData*

not officially supported

## *logEvent*

Function to log an event to ipa\_EventData (table will be created if it does not exist)

inputs: dbName – name of database (leave blank to pull value from the config file)  
dbPassword – password of DB User (leave blank to pull value from the config file)  
dbServer – FQDN of database server (leave blank to pull value from the config file)  
dbUserName – User ID of DB User (leave blank to pull value from the config file)  
useTrustedConnection – Yes will ignore PWD and UserName and use Windows credentials  
ProcessID – Normally set to a calculation of ToInt(Process.ID)  
eventDesc – Identifying key for the event  
keyValuePairs – array of key value pairs containing custom event data to log

outputs: operationCompleted – Boolean indicating success of action  
detail – failure text if operationCompleted is false

*newGUID*

Function that returns a generated GUID

Inputs: none

Outputs:      newGUIDResult – string representation of GUID

*openHTTPListeners*

Not used in IPA Utilities – returns an empty array of string

## *PageStackAddOrGet*

Helps maintain a list of pages visited to allow easy out of order navigation to multi-page forms. Add should be called on every page initialization action. The back button should call the Get operation and then switch destination based on the result val.

Inputs: list – array of ints that holds the page stack

val – integer page number to add to page stack (only used when op = Add)

op – Add (adds a page to the stack, won't add duplicates) or Get (removes the current page and returns the previous page)

Outputs: list – array of ints that holds the page stack (set this to same variable as the input list)

val – integer page number of previous page (only used when op = Get)

For an example of usage, please refer to the "Interactions 2013" demo process – PageStackAddOrGet pages.