

Worldview Product Guide

Revised January 2014

Release 17.8.01-r60001-r

GLOBAL DATA CONSORTIUM
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PRODUCT LICENSING

Thank you for licensing our web service product, we appreciate your business. In this document you will find product information, systems architecture and technical specifications on GDC's Worldview Platform.

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Introduction

Worldview, a cloud solution from Global Data Consortium, is a data quality and validity technology service specializing in the areas of identity, delivery and payment. Utilizing best-of-breed, local data providers, the Worldview platform offers unique total global coverage, accurately and efficiently.

The platform created by the Global Data Consortium – an expert team of professionals from the international data and technology industries brought together with the common objective of simplifying the execution of global, cross-border commerce strategies.

The Global Data Consortium is the trusted source for finding and licensing identity data without compromising individual security all over the world. With 90 years of combined experience in international markets and technology, the Global Data Consortium safely and confidently triangulates data to confirm identities. Using Worldview, clients are able to gain access to new markets and strengthen their position in existing markets.

The breadth and depth of the Global Data Consortium's experience and expertise make us best suited to assist with incorporating and constantly updating high-quality and country-specific data into the most comprehensive global data verification platform available – Worldview.

Audience

This document is intended for use by a variety of audiences interested in knowing more about the Worldview platform. It offers general project information for those interested in learning more about the functionality the platform offers. Primarily a product document, the information provided is also intended for a more technical audience wishing to leverage the solution in a variety of ways.

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Guide Intended Use

This guide is intended to assist administrators to deploy, configure, and manage Worldview production environment.

No specialist knowledge is assumed to deploy and configure Worldview; however, the information provided in this guide assumes that you are familiar with the environment on which you are deploying. Some deployment and administrative tasks also require knowledge of your environment and configuration processes.

Technology Architecture

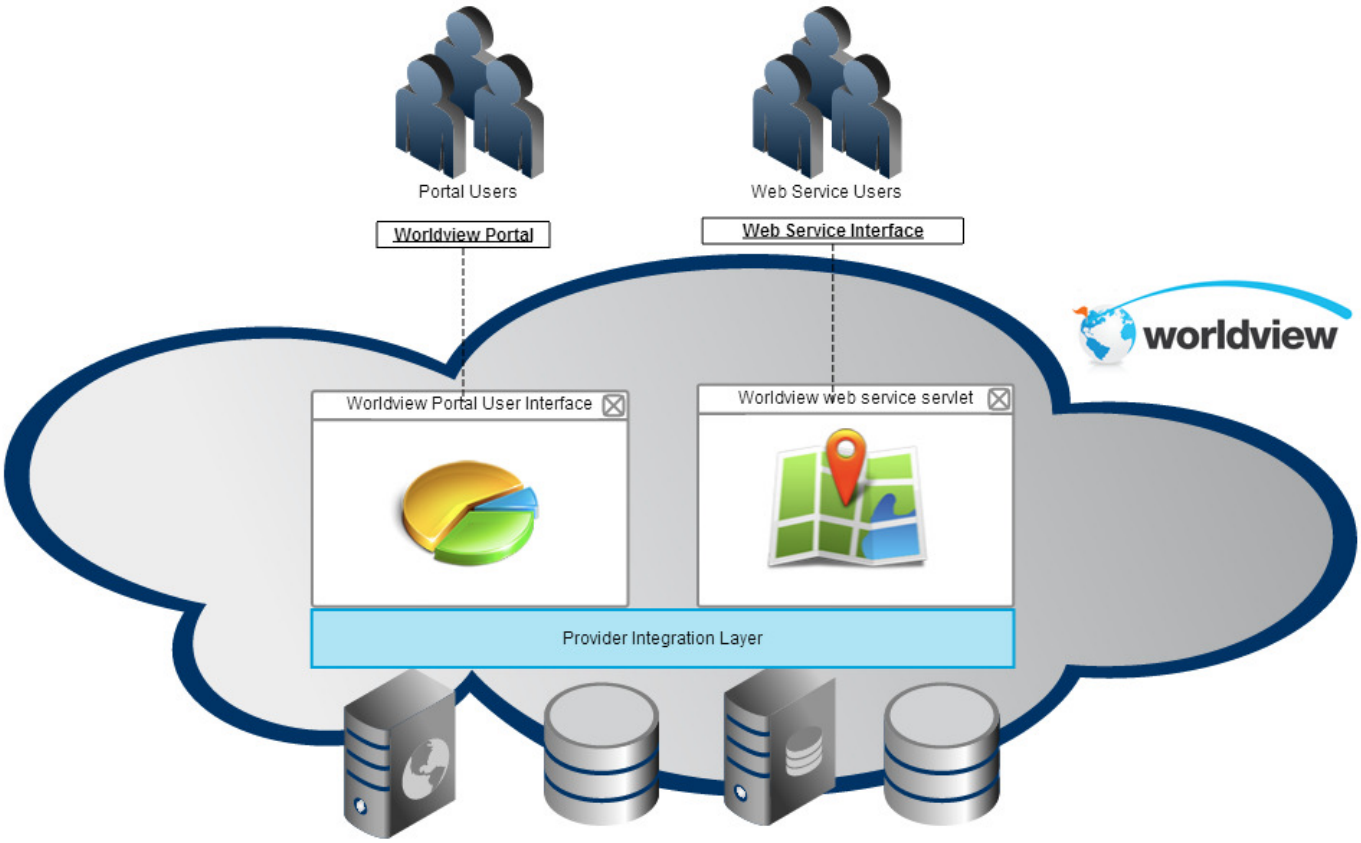
Overview

The following is a description of how the subsystems that comprise the Worldview Platform in order to consume, store, manipulate, and transmit data in a manner that satisfies security and scalability requirements.

Worldview is a platform, deployed in a cloud environment, offering both an Interactive Mode implemented via a Web service and Batch Mode implemented through the Worldview portal technology. The Web service and Portal comprise the Worldview platform and are tightly integrated. These two components are each powerful solutions offering extended functionality for Worldview customers.

It should be noted that this document uses the terms Web service/Interactive mode and Portal/Batch mode interchangeably. Additionally, the Architecture Components listed and described below describe the architecture in general of the Worldview platform.

Worldview High-level Architecture



User Interface (Portal)

Worldview supports most commercial browsers including Internet Explorer (Version 8.0 and higher), Firefox/Mozilla (Version 4.3 and higher). The technology is designed for other browsers such as Chrome, Opera and Safari, as well.

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Worldview is designed for all browser-based devices: desktops, laptops, tablets and phones. Worldview supports desktops and laptops.

The Worldview portal is accessible anywhere an internet connection is available.

Cloud Servers for Worldview

The Worldview platform utilizes Apache-Tomcat as its web server platform on the hosted cloud server environment. This web server supports all instances of Tomcat including the web service and portal components in Tomcat.

Application Framework

Worldview is a series of java servlets running in Tomcat contains which can be deployed across multiple servers. Therefore, Java 6 Runtime Environment is required.

Storage

Worldview needs a database to temporarily store the customer uploaded data while performing the various functions. The following databases are supported:

- Microsoft SQL Server 2005 or 2008
- Oracle 10g and 11g

For deployment of the Worldview configuration of the database, refer to Worldview technical support.

The Worldview cloud platform utilizes Microsoft SQL Server 2008 as its primary database.

Database Note – Worldview extracts the data from the input files and stores it in the database. Worldview never changes the input files, but only the data in the database.

The cbs and dedup matching components within Worldview utilize a central database. All Worldview executables should use configured to access the same database for each instance.

Server Container

Worldview is a series of java servlets that requires servlet containers.

We recommend using Apache Tomcat 6 (or higher), but the following web servers can also be used: Apache Geronimo, Microsoft IIS, BEA Weblogic and IBM WebSphere.

Worldview will interact with a database. For this purpose, a JDBC diver is needed.

Install Apache Tomcat

[Click here for instructions on how to install Tomcat]

JDBC diver

A JDBC driver is needed to enable Worldview to interact with a database. Place the JAR file of the JDBC diver in the lib directory in the Tomcat installation directory.

Oracle

The JDBC divers are shipped with the Oracle installation. Go to [ORACLE_HOME]/jdbc and open the readme file for more information. The drivers are located in [ORACLE_HOME]/jdbc/lib. Select a driver compatible with JDK 1.4 or higher and place the driver (this is a JAR file) in the directory: <tomcat_install_dir>/lib. This information is available in the readme file, for example:

```
- ojdbc14.jar
Classes for use with JDK 1.4. It contains the JDBC driver classes, except classes for
NLS support in Oracle Object and Collection types.
```

The drivers are also available on the following site:

http://www.oracle.com/technology/software/tech/java/sql_jdbc/index.html. Select a driver compatible with your Oracle version and with JDK 1.4 or higher and place the driver (this is a JAR file in the directory: <tomcat_install_dir>/lib.

Microsoft SQL Server

The database will hold Worldview and CBSDEDUP tables. For high-availability and disaster recovery one should consider a clustered solution.

GDC recommends using the jTDS JDBC driver from SourceForge. Download the driver (this is a JAR file) from http://jtds.sourceforget.net/ and place it in the directory: <tomcat_install_dir>/lib.

Type JDBC driver

There are four types of JDBC drivers. For more information, refer to http://en.wikipedia.org/wiki/JDBC_driver. We recommend using a type four driver. For Oracle, the drivers on the Oracle site mentioned above are type four drivers. Oracle calls these drivers 'JDBC Thin'. For SQL Servers, the JTDS driver mentioned above is a type four driver.

Worldview Message Management for the Web service

The Worldview platform is unique in that is designed to be a complete plug and play solution. The Worldview Platform supports SOAP/JSON/REST for integration and provides a SOAP based protocol for message transmission. Other messaging protocols such as JSON and REST could also be supported with very little customization. If you could like to implement another protocol contact GDC Support for more details.

Scalability

Front-End Load Balancer

The Worldview solution is scalable cloud platform and utilizes a load balancer in front of the system to manage and balance incoming requests. The load balancer acts as the single point for all incoming requests including browser-based via the portal and API calls via SOAP.

"Sticky Sessions" is a requirement here. This means that for the duration of an individual user session my requests should be routed to the same front-end server or else my session will restart. This is a fairly standard practice and most load balancers support this concept when deploying Worldview in your own environment.

HTTPS

While not necessarily a component, all incoming traffic can be encrypted using SSL. SSL traffic should be terminated at the load balancer and passed on unencrypted over plain HTTP. This is also a fairly standard concept and most load balancers should support it.

Front-End Servers

The front-end servers primarily deliver the HTML pages of the portal. The services running here via Tomcat will make any necessary calls over HTTP, TCP/IP, or using JDBC to connect directly to the back-end servers.

These servers will need to run Tomcat 6 or greater. They can use either Linux (CentOS or RHEL) or Windows.

Front-End Servers

The front-end servers primarily deliver the HTML pages of the portal. The services running here via Tomcat will make any necessary calls over HTTP, TCP/IP, or using JDBC to connect directly to the back-end servers.

These servers run Tomcat 6 or greater. They can use either Linux (CentOS or RHEL) or Windows.

Second Load Balancer

To achieve the most flexibility with regard to any future scaling a second load balancer is used between the front-end servers and back-end servers. The back-end servers are where most of the work takes place and it is necessary to scale these workers independently of the front-end servers.

Back-End Servers

The back-end servers are responsible for the majority of the work. The services running here via Tomcat will connect to a Microsoft SQL Server via ODBC. A shared file system is also needed for this group.

Connecting to Worldview

Setting up the Worldview Environment

Overview

Initial Steps to Deploy Worldview

To setup, deploy and configure the Worldview platform, certain basic requirements must be met. This includes utilizing the Worldview cloud environment as well.

1. Access to the Worldview Platform (either Web service or Portal)

    a. Worldview APIs
    b. Worldview Key
    c. Tenant Setups
    d. Access to customizable files and links

2. Follow these steps for deploying Tomcat in a Private Cloud Environment:

    a. Prepare and Setup the basic Architecture for Worldview as described above in this document.

    b. Configure Tomcat

    Tomcat needs information to connect to the database.

    - Open conf\context.xml in the Tomcat installation directory.
    - Add the tag <Resource/> with the attributes described below for Oracle or SQL Server

Oracle

Enter the server and port on which the Oracle database is running, the Oracle System ID (SID) of the database, the user name and password in the attributes. The default port is 1521.

```
<Context>
[...]
  <Resource
      name="jdbc/worldview "
      auth="Container"
      type="javax.sql.DataSource"
      factory="org.apache.tomcat.dbcp.dbcp.BasicDataSourceFactory"
      driverClassName="oracle.jdbc.OracleDriver"
      url="jdbc:oracle:thin:@<server>:<port>:<SID>"
      username="<user name>"
      password="<password>"
      maxIdle="100" maxActive="100"
      validationQuery="SELECT 1 FROM DUAL"
  />
</Context>
```

Microsoft SQL Server

Enter the server and port on which SQL Server is running the database, the user name and password in the attributes. You do not have to enter the port and database if SQL Server runs on the default port (1433) and if the database is set as the default database of the user. If the URL is not set correctly, jTDS throws and exception that can be seen in stdout.log in <tomcat_install_dir>\logs like this: *ERROR JDBCExceptionRer:78-CannotcreatePoolableConnectionFactory (Unknown server host name'bla'.).*

```
<Context>
[...]
  <Resource
      name="jdbc/worldview "
      auth="Container"
      type="javax.sql.DataSource"
      factory="org.apache.tomcat.dbcp.dbcp.BasicDataSourceFactory"
      driverClassName="net.sourceforge.jtds.jdbc.Driver"

url="jdbc:jtds:sqlserver://<server>:<port>/<instanceName=SERVERNAME>;useUnicode=true;ch
aracterEn
coding=UTF-8"
      username="<user name>"
      password="<password>"
      maxIdle="100" maxActive="100"
      validationQuery="SELECT COUNT(*) FROM INFORMATION SCHEMA.TABLES"
      />
</Context>
```

Example URL for a local SQL Server at a non default port:

```
url="jdbc:jtds:sqlserver://localhost:1818;useUnicode=true;characterEncoding=UTF-8"
```

Example URL for a Named SQL Server (SQLEXPRESS) at a dedicated server (DB_SERVER):

```
url="jdbc:jtds:sqlserver://DB_SERVER;instanceName=SQLEXPRESS;useUnicode=true;characterEncoding=UTF-8"
```

Worldview in the Cloud

Overview

Worldview is a true cloud solution offering the best in scalability, security, reliability and performance for your Identity, Delivery and Payment Verification and Enrichment needs. Our cloud technology is intended to make deployment and management easier for our administrative and end-users.

The cloud infrastructure of Worldview is scalable that system performance should not be an issue. However, processing time can be affected by several variables that typically include client software, hardware and network specifications. More specifically, related to Worldview, the service performance can be affected by the country of interest. Also, the number and types of options being called can affect performance as well.

Worldview Installation

Run the Installer

The first step to install Worldview is to run the installer. Double-click the JAR file: worldview-2.2.5-xxx-xx-xxx-nnnn.jar. The Ex indicate the platform information and the Ns the revision number. During installation, the installation directory can be selected.

Configuration Files

Worldview has configuration files that are installed and the blank sections will be defined based on the root location in which Worldview was installed.

Run the following script located in _____ from a command shell:
install_worldview_config –f [<options>] <folder>
Enter the same folder name as was used to install the configuration files for Worldview (that is why you need to use the optional parameter –f to overwrite existing files). This is the folder that

the environment variable _____links to. The parameter <options> can contain the following *optional* parameters:

Parameter	Description
-p <path>	Enter the path that contains the folder, default: "C:\Documents and Settings\<current_user>\worldview\base6"
-f	With this option, existing files and folders will be overwritten.

For example:

```
install_worldview_config -f -p "C:\Program Files\Worldview-6.3.0" config
```

Configure Worldview

Once the configuration files for Worldview have been installed, the configuration files can be adjusted to your specific situation.

To configure Worldview, follow the following steps:

- Navigate to the configuration directory %Worldview_USER_ROOT%\config
- Edit the configuration for Worldview and edit the file DI_STD.prm. There you can enter the database type after the key value dbms_plugin. See below for the two possible database types:

```
dbms_plugin=oracle_instantclient

OR

dbms_plugin=microsoft_sql
```

- The database credentials must be specified here after the key values database, username and password for Microsoft MSQL server the database is the name of the ODBC connection.

```
database = worlview
username = worldview
password = worldview
```


Deploy CbsDedup on Axis2

This describes how to deploy the CbsDedup web service on the Axis2 Java servlet. CbsDedup is the matching engine leveraged by Worldview for deduplication and matching. CbsDedup should be deployed on the same machine on which the Worldview executables cbs and dedup are installed.

Servlet container

CbsDedup is a web service that uses the Axis2 Java servlet. Axis2 requires a servlet container.

Apache Tomcat 6 (or higher) is recommended, but the following web serves can also be used: Apache Geronimo, Microsoft IIS, BEA Weblogic and IBM WebSphere. The webservers must be installed and running.

Deploy Axis2

- If Axis is not yet deployed on Tomcat, copy the file axis2.war, located in %Worldview_Base_Root%\webapps, to the directory <tomcat_install_dir>\webapps. Stopping Tomcat is not necessary.

Deploy CbsDedup

- Copy the file cbsdedup-2.0.2.aar, located in %Worldview_Base_Root%\webapps, to the directory <tomcat_install_dir>\webapps\axis2\WEB-INF\services.
- Open the URL http://localhost:8080/axis2/ (use the port entered in the installation of Tomcat) and click 'Services'. Check that 'CbsDedup' is listed. Click 'CbsDedup' to display the WSDL. The URL of the WSDL is: http://localhost:8080/axis2/services/CbsDedup?wsdl.

Linking Worldview to CbsDedup

Make sure Worldview can find the CbsDedup web service.

- Open the configuration file worldview.properties, located in %Worldview_User_Root%\config\worldview in a text editor.
- Find the setting worldview.cbsdedupproxy.endpoint and edit the URL of the CbsDedup web service http://<host>:<port>/axis/services/CbsDedup.CbsDedupHttpSoap12Endpoint. Enter the host and port on which Tomcat is running.

Select the type of database server you would like to use. Only one of the following database serve sections can be enabled! To enable/disable a property remove/add the comment mark # at the beginning of the line.

For Oracle enable the next two lines by removing the comment remark at the beginning of the lines:

```
worldview.hiberate.dialect=org.hibernate.dialect.Oracle10gDialect
worldview.hiberate.dialect=com.hi.commons.db.hibernate.oracle.PlatformOracleDialect
```

Note: In the case the Worldview was already in use the second line should not be enabled unless the current database is dropped and created again.

For Microsoft SQL Server enable the line:

```
worldview.hibernate.dialect=com.hi.commons.db.hibernate.UnicodeSQLServerDialect
```


Worldview Platform Customization

The Worldview platform allows for customization. The platform customization includes global customizations that can be implemented for both Web service and Portal use. The standard groups for these customizations are:

Application level – app.properties
System level – gdcproperties.xml
Tenant & Option level –options.xml
User level – users.properties

In order to customize the various components of Worldview these files may need to be configured or adjusted. The sections below describe these files.

Application Properties

App.properties

App.properties is where global application properties reside and can be configured. You can also have individual message catalogs for each page and each component that override these defaults. The name of this file is based on the <filter-name> element in web. Consult GDC technical resources before attempting to create override filter based files. A subset sample of the configurable fields is listed below:

Application Properties:

Import/Export Fielding

address.additionalInfo	= Extended info
address.additionalInfo1	= Hauscode/Leitcode (DE), Province code (NL), County Code (US)
address.additionalInfo10	= Extended Detail – encrypted; NOTE – Used in the portal for userID on input only.
address.additionalInfo6	= Options: case;script;geocode;no suggestions
address.additionalInfo8	= Adaptation Codes
address.additionalInfo9	= Reliability Codes
address.administrativeArea	= Administrative area
address.countryCode	= Country code
address.countryName	= Country name

address.houseNumber = House number
address.locality = Locality
address.name = Name
address.organization = Organization
address.postTown = Post town
address.postalCode = Postal code
address.postbox = Postbox
address.premise = Premise
address.subAdministrativeArea = Subadministrative area
address.subpremise = Subpremise
address.thoroughFare = Street name
address.surname = Addressee
address.contactType = Contact type
address.mutationDateTime = Date of last modification
address.creationDateTime = Creation date
address.addressIndication = Address Indication

Messaging

cancelDelete-button.label = Cancel
cancelOverwrite-button.label = Cancel
chart.no-data-available.message = No data available
confirmOverwriteBlock.alert = A file with the same name already exists. Do you want to overwrite?

Contact

contact.chamberOfCommerceNo = Chamber of commerce no
contact.compoundSurname = Compound surname
contact.contactType = Contact type
contact.dateOfBirthFoundation = Date of birth/foundation
contact.formOfAddress = Form of address
contact.function = Function
contact.functionOccupation = Function
contact.gender = Gender
contact.givenNames = Given names
contact.givenNamesFull = Given names full
contact.givenNamesInitial = Given names initial
contact.indicator = Indicator
contact.socialSecurityNo = Social security number
contact.surnameFirst = Surname first

contact.surnamePrefixFirst	= Surname prefix first
contact.surnamePrefixSecond	= Surname prefix second
contact.surnameSecond	= Surname second
contact.unstructuredName	= Complete name
contact.version	= Version
contact.mutationDateTime	= Date of last modification
contact.creationDateTime	= Creation date

Email

email.version	=Version
email.addressee	=Addressee
email.confidenceLevel	=Confidence level
email.topLevelDomain	=Top level domain

Phone

phone.phoneNumber	=Phone number
phone.callingFromCountryCode	=Calling from country code
phone.countryCode	=Country code
phone.formattedOutOfCountryCalling	=Formatted out of country calling

File Descriptors

file.uploaded	= Your file has been uploaded successfully.
file.uploaded.overwritten	= Your file has been overwritten with the new file.
file.uploaded.fileTypeNotSupported	= This file type is not supported, you can only upload .csv files

Again, this is not all available options but does give you a view into the flexibility of the solution and configuration options

Understanding the basics of Provider Service Integration

GDCProperties.xml

Service provided by partner technologies and/or GDC data and technologies are defined and integrated into the Worldview platform utilizing the GDCProperties file which defined the type of service provided by the defined provider and the country or countries covered by the service. Below is a small set of sample entries in the file:

```
<GDCProperties>
<services>
        <type>AddressEnrichment</type>

        <service>
                <name>default_global_provider</name>
                <countries>
                        <countrycode>DEFAULT</countrycode>
                </countries>
        </service>
        <service>
                <name>world_default _provider</name>
                <countries>
                        <countrycode>DEFAULT</countrycode>
                </countries>
        </service>
        <service>
                <name>geo_coding_provider</name>
                <countries>
                        <countrycode>ES</countrycode>
                </countries>
        </service>
</services>
</GDCProperties>
```

Installing Custom Providers

Consult with GDC technical support on the complete technical details of integrating custom providers. The following steps below should be followed to enable a successful customization in Worldview platform to replace or add new custom providers.

1. Understand the provider's specific deployment model – on premise, data, SaaS/cloud
2. Understand the credential model deployed by provider – license key, user name, and IP address specific
3. Determine type of integration:
    a. Coded Language integration – java to java interface for example
    b. Web Service based – Soap WSDL, REST, or JSON for example
    c. Proprietary or unique data source which needs to be embedded into Worldview technology directly
4. Determine fielding match up or *mapping* and configure appropriately in Worldview. PremiseNum in provider = House Number in Worldview configuration.

Once the previous steps have been performed, provide the mappings and then consult with Worldview staff to get instructions on the appropriate configuration changes.

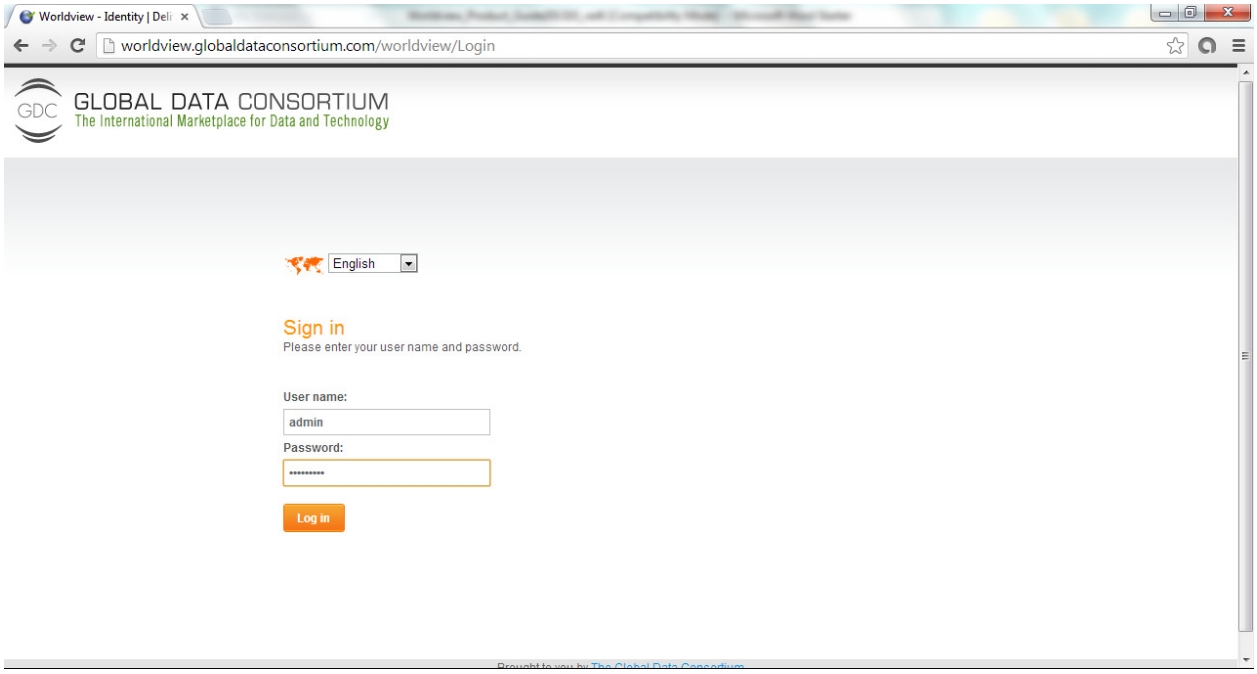
Customization Options

Deploying and Configuring Tenant Specific Settings

Add Tenant in Portal

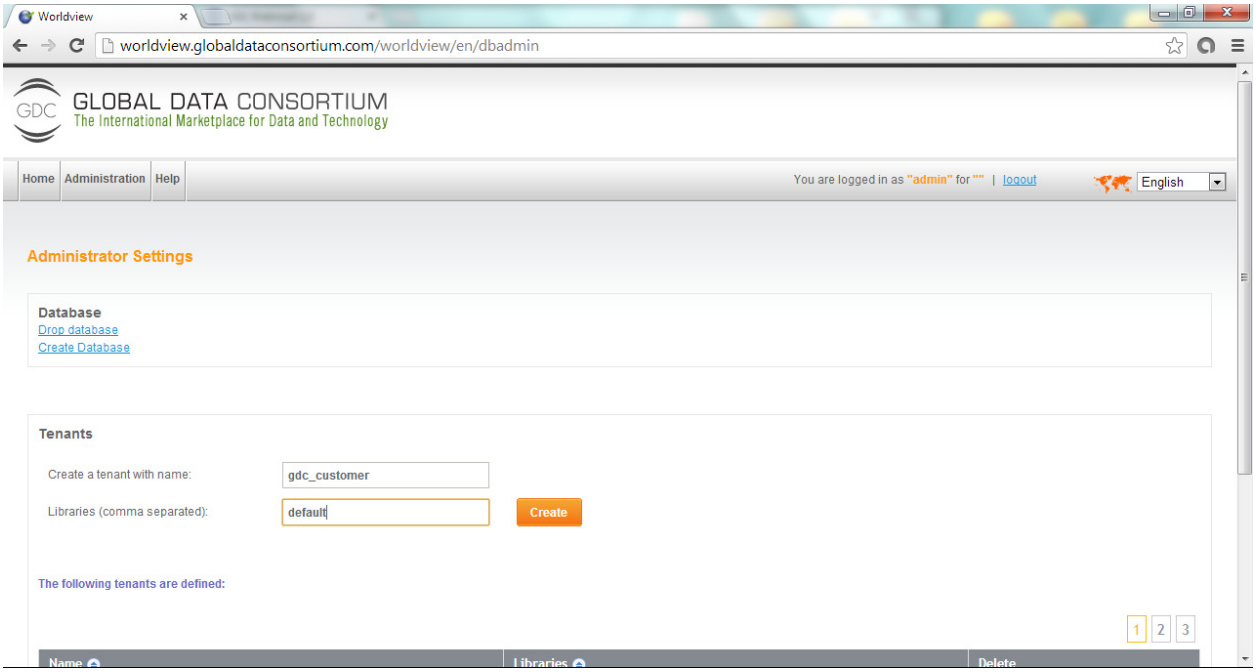
To add a Tenant in the Portal, complete the following steps:

1. On the Worldview log-in screen, log-in as an administrator with userID and password.



2. Once logged-in as an administrator, navigate to the Administrator tab and select DBAdmin.

3. Create the tenant by selecting a name for your tenant and library (choose default for normal set up).



4. Select Create and you will see the tenant created on the bottom of the screen under 'The following tenants defined'. Your tenant is now set up in the portal.

Add Tenant in Billing Table

To add billing and counting control to the newly created tenant, you will need to add the tenant in the billing table. To do this, follow these steps:

1. Locate Billing Table in database.
2. Add Tenant. Note – The tenant name must match the tenant name you created using the Portal Web Interface.
3. Once you add this, the system will automatically create a billing record when a tenant is inserted into the tenant table with 100 look-ups available.

Web service Customization

Consult the Web developer and Integration guide and GDC technical support personnel for details on customization and deployment.

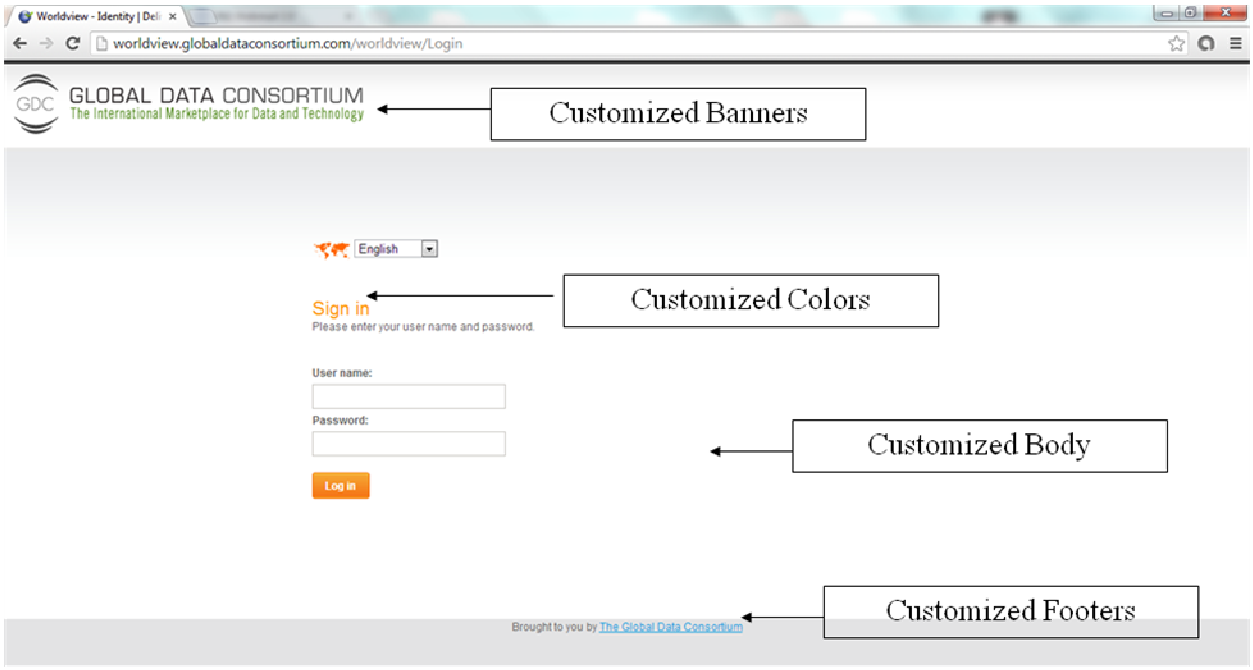
Portal Customization

The Worldview platform also involves unique customizations that are designed for the web portal component. These portal customizations are described below.

User Interface Customization

The Worldview portal User Interface can be implemented as white-label software. To customize the "skins" of Worldview, we suggest integrating and deploying Worldview as described in the content in this document. Once you have successfully deployed the solution as packaged, you will need to locate and configure certain files.

The diagram below shows the configurable components of the portal:



Consult with GDC technical support for the list of files and procedures necessary to customize the portal. It is suggested that you use the same format and file size when replacing the files.

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Tenant Control System & Multitenacy Architecture

Worldview supports multi-tenancy. This means that multiple companies (tenants) can use the same deployment of Worldview without interfering with each other's operation. It entails that users have access to functionality of Worldview based on the tenant to which they below.

Authentication Types

The Worldview platform provides for two types of authentication methods standard: **LDAP configuration** and **proprietary file formatted.**

LDAP Support

The Worldview platform supports LDAP integrated authentication and user, tenant, and role management. Consult with GDC technical support resources for more details.

LDAP Support

The default method for managing users and tenants is a proprietary format which is property and XML file based. Properties files are used to validate user credentials and in scaled environments should be kept in synch among each front-end server. There are 2 approaches to consider: shared file system or file sync. If the files are not changing frequently synchronizing files when they are changes is the better approach. If the frequency of changes increases or if the number of files to be synchronized increases significantly a shared file system should be considered and perhaps products like LINUX based *rSync* would be good resources to consider deploying.

Defining Roles and Assigning Users

Field	Data Type	Description

Configuring Tenants and Users

File name - tenant.xml

The tenant file contains an xml structure for describing feature and service access for a given tenant. It is through management of the tenant file that one tenant or company can have access to *geocoding* while another is refused access to the service. Each customer/company/tenant has an entry and in it an *option* or *options* can be included for the tenant to enable the service. Take this very simple tenant configuration:

```
<tenantList>
  <tenant>
    <name>default</name>
    <option>
      <countryCode>ALL</countryCode>
      <optionName>NativeOutputScript</optionName>
    </option>
  <tenant>
<tenantList>
```

You will see that for the tenant name *default* we have enabled the use of *NativeOutputScript* for any and all services that support this *option* for all countries in which it is supported - **<countryCode>ALL</countryCode>**. If the *countryCode* was set up with one ISO code, say RU for Russia, then only the service or services that support *NativeOutputScript* would be able to be used by the tenant.

```
<tenantList>
  <tenant>
    <name>default</name>
    <option>
      <countryCode>ALL</countryCode>
      <optionName>NativeOutputScript</optionName>
    </option>
    <option>
      <countryCode>ALL</countryCode>
      <optionName>LowerCase</optionName>
    </option>
    <option>
      <countryCode>ALL</countryCode>
      <optionName>DPV</optionName>
    </option>
  <tenant>
```

<tenantList>

Options control access to certain services and tenants control access to *options*. More about this related to custom tenant setup can be found in the section related to option configuration can be found in the custom tenant setup section.

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Configuring User Access within a Tenant

File name - user.properties

Example of a user entry in the user settings file

worldview.users.***username***.password= p@ssword1!
worldview.users. ***username***.role=ROLE_WS_USER, ROLE_GUI_USER, ROLE_ADMINISTRATOR
worldview.users. ***username***.tenant=default

Explaining user entries and roles in the user settings file

In the user settings file you can specify users and assign a role to them. Users also need to be assigned to a tenant. It is not possible to assign multiple tenants to one user. A user with the role ROLE_ADMINISTRATOR is special: his actions involve all tenants, so it is pointless to assign a tenant to that user.

The following table shows the roles and the authorizations belonging to this role.

Role	Authorized for
ROLE_ADMINISTRATOR	Database handling, add tenants
ROLE_WS_USER	Access web services for their tenant
ROLE_GUI_USER	Access the user interface for their tenant
ROLE_DEMO_USER	Cleanse operations and reporting, but not export the results for their tenant
ROLE_SUPER_USER	Cleanse operations and reject handling for their tenant
ROLE_REJECT_USER	Reject handling for their tenant
ROLE_PROCESS_USER	Cleanse operations for their tenant

The default file contains these users:

User	Password	Roles
admin	admin	ROLE_ADMINISTRATOR ROLE_WS_USER ROLE_GUI_USER
user	user	ROLE_WS_USER ROLE_GUI_USER ROLE_SUPER_USER
reject	reject	ROLE_GUI_USER ROLE_REJECT_USER
process	process	ROLE_GUI_USER ROLE_PROCESS_USER
demo	demo	ROLE_GUI_USER ROLE_DEMO_USER

Standard Directory Structure

During the installation and setup process there is a great deal of flexibility in deployment locations. Consult a GDC technical resource for questions about of scaled deployments and multiple server deployments. After installation, the following dictionary structure is created in *gdcconfig* in addition to the *worldview* folder Installation:

- worldview/content — Stores the uploaded input files and the output files
- config/worldview — Contains the general config. File worldview.properties
  - config — Contains libraries with configurations
    - general/export — Contains the libraries with configurations
    - general/improve — Contains the Worldview Identity configurations
  - database — Contains database files used by Worldview
  - security — Contains the user configuration file users.properties

Billing

Configuring Billing Tables

The Worldview platform has built in functionality to monitor and control the number of look ups for clients. Applied at the Tenant/Customer level, the look ups for both the Interactive mode and Batch mode are controlled through the Billing Tables in the database.

The billing table (dbo.BillingLog) below is a snapshot, in SQL server, if you would like specific DDL consult with GDC technical support.

Table - dbo.BillingLog

	uid	remaining	purchased	tenant	creatddt	modifieddt
▶	86b0-2d3f6d4182f6	2000	2000	test	8/27/2013 9:15:...	8/27/2013 9:15:...
	914029d9-756d-...	-1	-1	default	8/11/2013 12:0...	8/28/2013 8:49:...
*	NULL	NULL	NULL	NULL	NULL	NULL

Once the tenant is entered into the table, the billing is controlled by the following steps:

1. The tables x | y are set both set to the number of look ups one wishes to grant or purchase.
2. Set the following x | y tables equal to the number of look ups
3. Note – if you wish to set a tenant to unlimited look ups, set both values in the billing table to -1.

GDC provides consulting services for configuration. Connect with GDC Technical Support for the New Tenant, New User, and Options configuration worksheets or utilize the instructions included in this product guide.

Add Tenant Override Configuration Folder Using Default as a Template on Server

Tenants can be configured to have added control for customers' instances of the Worldview platform. These configurations include setting tenant specific values for reliability, providers, messages and platform options.

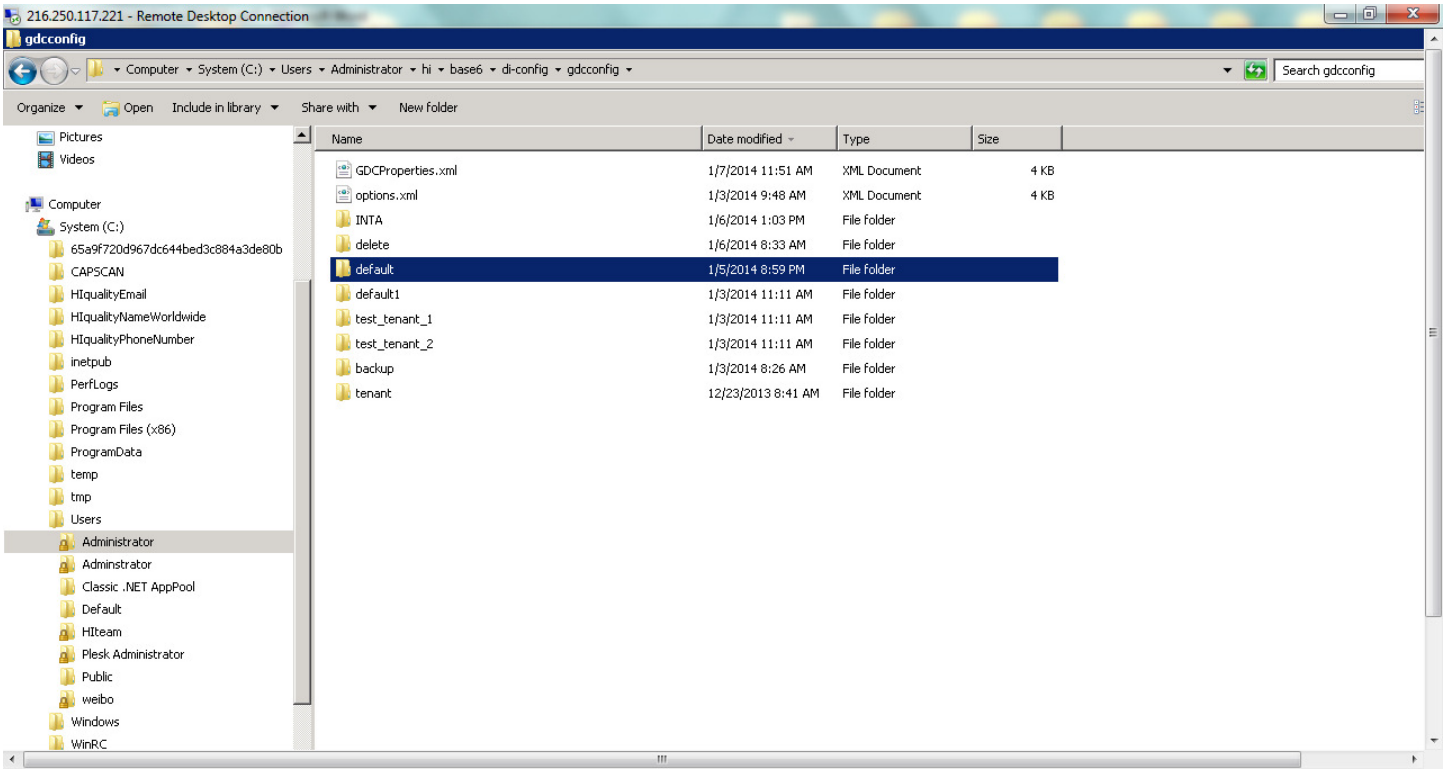
The default or 'template' tenant folder is equipped with the following to main configuration files:

GDCProperties.xml and Options.xml. These files are initially found in the gdcconfig folder (ultimately, the root folder) from which the template folder stems.

GDCProperties.xml, generally speaking, controls the service providers. You will use this file to configure API provider integrations and the services offered by these providers.

Options.xml, generally speaking, controls the options such as UpperCase, etc. that are configurable per tenant. More information on these options can be found in the GDC Worldview developer guide.

The path to the root gdcconfig file is shown below:



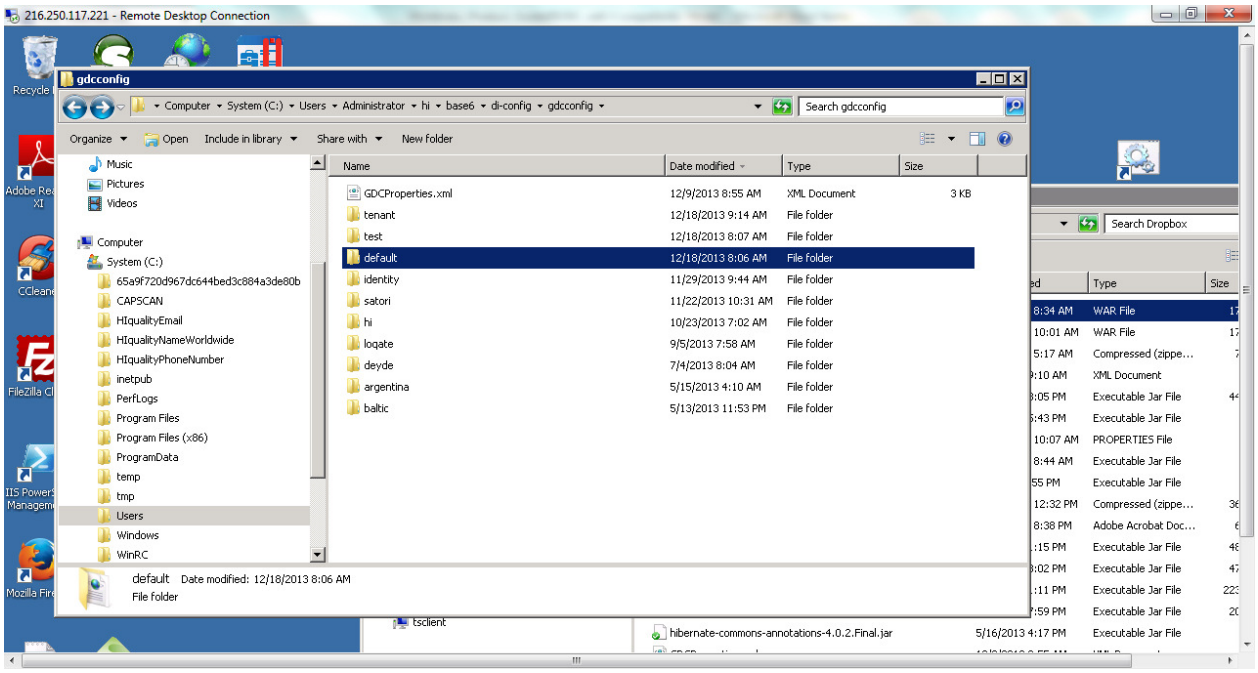
Note that when the GDCProperties.xml and Options.xml files are enabled, they override any tenant files that stem from them.

To disable either one of these files, simple rename them with a non-xml extention. GDC does not suggest deleting the root files.

Below you will find how to enable and configure a separate tenant based on the default template. The below direction assumes you have performed the steps to create a new tenant initially via the Worldview portal.

First you must add a tenant override on the Server. To do this, follow these steps:

1. Locate the tenant folder on the server. For the Worldview hosted cloud solution, it is located on the following path: C:\Users\Administrator\hi\base6\di-config\gdcconfig\default



2. Copy the Default folder. Rename this folder the same as the custom tenant you created previously.

3. To modify and configure the new tenant, open the folder and the GDCproperties.xml file. You must also disable the GDCproperties.xml (or Options.xml) file(s).

4. You will next need to create a user(s) for the newly created tenant. In the folder, open users.properties file. Add or modify the following fields:

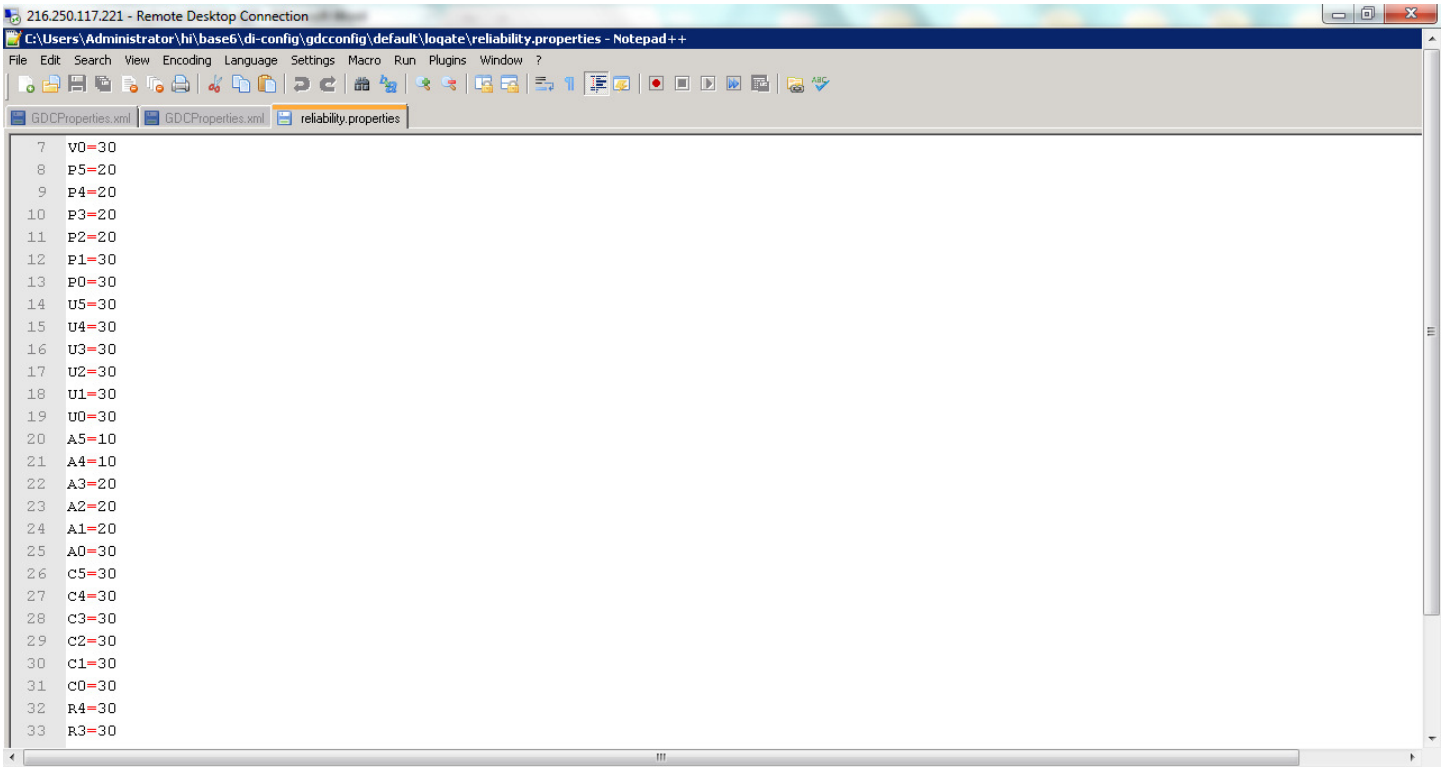
   dataimprover.users.user.password=

dataimprover.users.user.role=
dataimprover.users.user.tenant=default1 (Example)

Be sure to save changes to the user.properties file.

5. To Modify:

   a. Reliability Codes (and Adaptability Codes)
      i. Open the tenant folder.
      ii. Locate the provider you wish you alter the messages
      iii. Configure and Save (screenshot below):



   b. Provider(s)
      i. Add folder
      ii. Configure the GDCPropeties.xml file
      iii. Provide any necessary credentials

c. Status Messages
    i. Same as (a) above for reliability codes.

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Data and Provider Quality and Integrity

Glossary of Terms

Service – in the case of Worldview, a service is a defined external or internal function exposed through the platform and controlled within the tenant and user access metaphor.

Tenant – a controlling unit or entity within the platform which represents a company or customer and may have any number of users included in it and thus options or services available.

Option – a controlling unit within the platform representing access to a service.

User – a username and password that provides access to the platform to utilize options within a tenant.

Application Framework - consists of a software framework used by software developers to implement the standard structure of an application.

Batch mode (batch processing) - execution of a series of programs ("jobs") on a computer without manual intervention.

Data Transformations - data transformation is the process of converting data from one format (e.g. a database file, XML document, or Excel sheet) to another.

Hardware Virtualization - the virtualization of computers or operating systems. It hides the physical characteristics of a computing platform from users, instead showing another abstract computing platform.

Interactive mode – in this mode the Worldview platform services requests and responds based on a single submission and with an interactive party or service awaiting the reply to this single request on the "other end."

Batch mode – this mode of processing is provided by the Worldview portal and is an offline mode whereby a file or series of files with data is provided, a configuration for the file(s) is specified, and the results are made available in a single batch for download or access.

Message Management – in the case of Worldview this is the method by which the platform manages response messages from the different service provider integrated into the platform.

Multitenancy - in software architecture where a single instance of the software runs on a server, serving multiple client-organizations (tenants).

Provider – Any in-house or third-party data provider Worldview uses.

Simple Object Address Protocol (SOAP) - a protocol specification for exchanging structured information in the implementation of Web Services in computer networks.

Storage - a technology consisting of computer components and recording media used to retain digital data.

SQL Server 2008 – a particular version of Microsoft's SQL Server technology.

Single Tenant - an architecture in which a single instance of a software application and supporting infrastructure serves one customer. In the software-as-a-service (SaaS) delivery model, a customer is called a tenant.

User Interface (UI) - allows users to interact with electronic devices through graphical icons and visual indicators such as secondary notation, as opposed to text-based interfaces, typed command labels or text navigation.

Webserver - the software (the computer application) that helps to deliver web content that can be accessed through the Internet.