Backup mechanism and procedures

**Workmatec**

Backup is one strategic component of data protection; others include mirrors, snapshots and replication. As a strategic element, backup planning is a fundamental part of the overall storage plan.

Workmatec has taken up following measures in regard to the basics of backup operations for source code/product related items, official documents and emails.

# Working Items

Backups are taken for the following working items:

|  |  |  |
| --- | --- | --- |
| **Item** | **Detail** | **Working Location** |
| Source Code | Source Code contains all source files of Workmatec application. These files are kept under Microsoft Visual Studio Source Safe for version control. | [\\work\_server\SS](file:///\\work_server\SS) |
| Internal Database | SQL Server 2012 database(s) used for development of Workmatec Application. | [\\work\_server\Databases](file:///\\\\work_server\\Databases) |
| Online Database | SQL Azure Database connected with online instance of Workmatec |  |
| Emails | Users emails folder are kept on network drive for safe and easy backups. | [\\work\_server\emails](file:///\\work_server\emails) |
| Official Documents | 1 TB USB HDD | Local Computer Drive and  Cloud Storage |

# Backup Media

Backups are taken in following media devices:

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **Specification/ Size** | **Path or Backup Location** | **Responsible** |
| Internal Network Drive | 500 GB HDD | [\\work\_server\Backups](file:///\\work_server\Backups) | System Admin |
| External Backup Drive | 1 TB USB HDD |  | Project Manager |
| Cloud Storage I | Google Drive Account  2\*15 GB Accounts | bilal.manzoor.bk2@gmail.com  bilal.manzoor.bk3@gmail.com | System Admin |
| Cloud Storage II | Azure Blob Storage | Workmatec.azure | System Admin |

# Roles and Responsibilities

Following roles are involved for backup procedure

|  |  |
| --- | --- |
| **Role** | **Responsibilities** |
| Developers | Check-in code in source control |
| System Admin | Responsible to backups and log management |
| Project Manager | Responsible to take copy of backups on external mediums |
| Management | Inspection |
| Auditors | Nominated by management to audit backup procedures once in a month. |

# Backup Life Cycle

An effective backup operation requires certain tasks to be completed successfully every day. There are also weekly, monthly and on demand backup plans that are as important as daily tasks. Short-term tasks are highly tactical, long-term tasks tend to be more strategic.

Following table explains source code backup intervals:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Interval** | **Backup Item** | **Backup Media** | **Responsible** | **Mode** | **Retention Time** |
| Daily | Source Code | Internal Network Drive | System Admin | Manual | Monthly |
| Weekly | Source Code | External Backup Drive | System Admin or  Project Manager | Manual | Last three internal audits. |
| Monthly | Source Code | External Backup Drive and  External Cloud Drive | System Admin or  Project Manager | Manual | Last three internal audits. |
| Major Release | Source Code | External Backup Drive and  External Cloud Drive | System Admin or  Project Manager | Manual | Up to two releases |
| On Demand | [Backup Item] | External Backup Drive | System Admin or  Project Manager | Manual | Last three internal audits. |

Previous backups will be overwritten??? (Added by Nabil – please verify)

Following table explains Workmatec database backup intervals:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Backup Interval** | **Backup Item** | **Backup Media** | **Responsible** | **Mode** | **Retention Time** |
| Daily | Online Database | Cloud Storage II | System Admin | Auto | Up to next Release |
| Weekly | Internal Database | Network Drive  External Backup Drive | System Admin or Project Manager | Manual | Last three internal audits. |
| Weekly | Online Database | External Backup Drive | System Admin or Project Manager | Manual | Last three internal audits. |

Following table explains server and workstation machine backup intervals:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Backup Interval** | **Backup Item** | **Action** | **Backup Media** | **Responsible** | **Mode** | **Retention Time** |
| Monthly | Development Server | Create Restore Point | Network Drive | System Admin | Manual | One Quarter |
| Monthly | Workstation machines | Create Restore Point | Network Drive | System Admin | Manual | One Quarter |
| - | Cloud Storage I | Auto backup | Cloud | Service Provider | Auto | As per service provider policy |

Following table explains backups of purchased software, official documents and emails:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Backup Interval** | **Backup Item** | **Action** | **Backup Media** | **Responsible** | **Mode** | **Updates** |
| Once | License Software\* | Copy | External Backup Drive | System Admin | Manual | Depend on software |
| Daily | Official Documents |  | Cloud Storage I | Owner | Auto sync |  |
| Daily | Emails | Copy | Internal Backup Drive | System Admin | Manual (Batch file) |  |
| Weekly | Emails | Copy | Internal Backup Drive | System Admin | Manual (Batch file) |  |

*\* All MSDN subscribed software already on cloud and can be downloaded on demand with installation product key.*

# Check list for System Admin

Daily Checklist

|  |  |
| --- | --- |
|  | Item |
|  | Source Code |
|  | Online Database |
|  | Emails |

Weekly Checklist (Last working day of every week)

|  |  |
| --- | --- |
|  | Item |
|  | Source Code |
|  | Internal Database |
|  | Online Database |

Monthly Checklist (Last working day of every month)

|  |  |
| --- | --- |
|  | Item |
|  | Source Code |
|  | Internal Database |
|  | Online Database |
|  | Server and Workstation machine backups |

Release Checklist (After Major Release)

|  |  |
| --- | --- |
|  | Item |
|  | Source Code |
|  | Internal Database |
|  | Online Database |
|  | Server and Workstation machine backups |

Items in red color are not mentioned in backup detail tables.

Info about License Software and Official Documents is missing in checklist.

# Backup log

System Admin updates backup log app after performing required action. It has been reviewed and checked by the management/auditor once in a month.

Following items filled by the responsible person:

* Date
* Action (Check-In, Archive)
* Backup Item (Source Code/Database/Document/System)
* Backup Program (Daily, Weekly, Monthly, Release, On Demand)
* Description
* Scheduled (Yes/No)
* Action By